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ABSTRACT

This document is a collection of articles on Olympic events, particularly those that are not as well publicized as some others. Each article was written by an acknowledged expert in the particular field. The introductory article, "The Olympic Story," covers the history of Olympic Games from their origin in Greece to the present. The remaining articles on the little known Olympic events are on archery, fencing, judo, shooting, cycling, canoeing, equestrian sports, yachting, team handball, water polo, pentathlon, biathlon, bobsledding, and luge. Each article contains some historical description, description of rules and equipment specifications, and a run-down of current practices and events. (JA)

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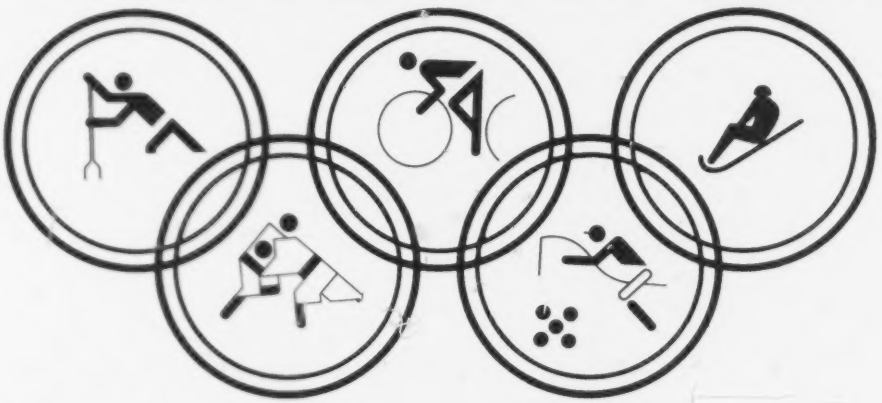
THE LITTLE KNOWN OLYMPIC SPORTS



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for the AAHPER Division of Men's Athletics

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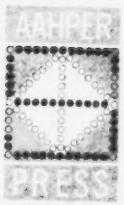

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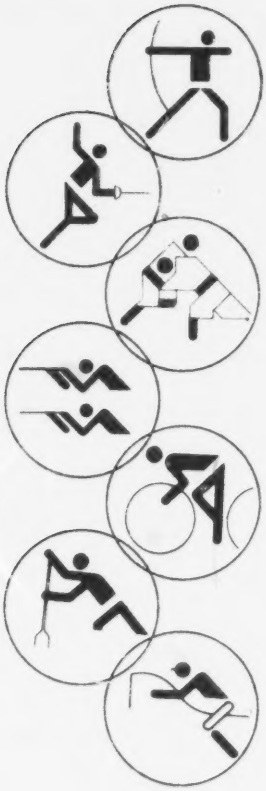

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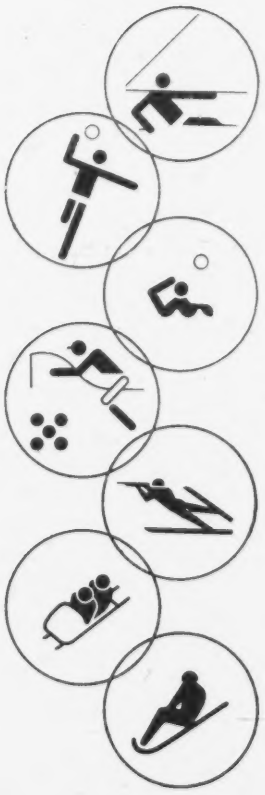


Is archery an Olympic sport?
How many walls are used in team handball?
What is a kayak?
How many Olympic sports are there?
How many classes of sail boats are there in Olympic yachting?
How do you hold a luge?

Such questions seem ridiculous to some, but they are asked by people not well informed about Olympic sports. The American public is quite familiar with some Olympic sports—basketball, track and field, swimming, and other so-called "major" sports—known because of their popularity in interscholastic and intercollegiate competitions and Amateur Athletic Union activities. Because these sports are so much a part of our culture, the United States entries in these fields have been rather successful in the Olympic Games over the past decades. ● A few sports, however, which have gained little popularity in the United States are considered major in other countries, such as field hockey in Pakistan, soccer in Latin America and Europe, fencing in Hungary, and gymnastics in Russia and Japan. If we believe in the inherent value of all sports and the concept of "a sport for everyone," we should broaden the base of our physical education offerings and the opportunities for participation in various sports through our club sports programs and our interscholastic and intercollegiate competitions. If the base of sports instruction is expanded and the quality of instruction is enhanced, the nation as a whole will benefit. Even if Americans do not choose to participate on a broader base, at least the public should be better informed about the nature of the activities in which many young men and women are representing our country.

To that end, the Division of Men's Athletics has long recognized the need to assist the development of "lesser known" or "underdeveloped" sports through our physical education and recreational programs. In May 1966 AAHPER assumed the responsibility for planning and administering, with appropriate involvement of representatives of the U.S. Olympic Committee and other national sports organizations, a National Conference on Olympic Development. Held at the NEA Center, the conference included over 160 representatives from all national sports organizations involved in the administration of Olympic sports. One of the significant outcomes of the meeting was a clearer understanding and acceptance of what constitutes a long-range sports development program. It was agreed that there was a great need in the United States to provide more boys and girls as well as men and women with more information about, and greater opportunities to learn, basic sports skills under competent physical education teachers and sports leaders ● The Division of Men's Athletics and the Division for Girls and Women's Sports formed a joint committee with representatives of the U.S. Olympic Committee to explore the appropriate role that our Association could assume in this sports development effort. Plans were made to implement recommendations made by the National Conference on Olympic Development by assisting a number of the Olympic sports governing bodies with the development of various publications, articles in professional journals, films, convention program demonstrations, and clinics. Some excellent cooperative relationships and effective programs have resulted ● One important project was the publication of the articles contained in this text in the *Journal of Health, Physical Education, Recreation*. In order to provide greatest authority, each sports governing body was asked to choose one of the most knowledgeable persons in its field to prepare such an article ● On behalf of the Association, the editor would like to express sincere thanks to those contributing authors who gave of their time and effort to make this publication possible. Deep personal gratitude is also extended to Sara D. Davis for her most meaningful literary and editorial assistance.

—Harvey M. Jessup, Editor

HARVEY M. JESSUP is chairman of the Physical Education Department at Tulane University. He has served as Vice-President of the American Association for Health, Physical Education, and Recreation, and as Chairman of the AAHPER Division of Men's Athletics. Dr. Jessup is chairman of the Joint Fencing Olympic Development Committee, which is currently in the process of conducting clinics and workshops as a means of upgrading our efforts in fencing.

THE OLYMPIC STORY

The Olympic motto, *Citius-Altius-Fortius*, which appears under the rings on the Olympic flag, was conceived in 1895 by Father Didon, headmaster of Arcueil College near Paris, France. It is said he first used this expression while delivering a speech glorifying the athletic achievements of his pupils. The words technically mean "faster, higher, braver"; but the modern version, which seems to have been universally accepted, is "swifter, higher, stronger," illustrative of the athlete's efforts to run faster, jump higher, and throw or lift more strongly.

The five rings which form the Olympic symbol originally represented the five major continents—Europe, Asia, Africa, Australia, and North America; the colors blue, yellow, black, green, and red were chosen because at least one of them appears in the flag of every nation of the world. The rings are linked to illustrate the comradeship and strength of unity that comes through sports competitions among peoples of the world.

Although the Olympic flag which first appeared at the Olympic Games in Antwerp in 1920 and the slogan coined in 1895 are those of the modern Olympics, both would have been applicable to the underlying philosophy of the early Olympic Games.

While the exact origin of the Games is unknown, history has recorded that for many centuries the ancient celebrations which later became the Olympic Games were fundamentally a religious ceremony of the Hellenic world held every four years according to the Greek calendar.. The term "Olympiad" later was used to describe this period of time. There is some belief that the earliest of the ceremonies started in about 1453 B.C. These were not meant as athletic carnivals, but were really religious services—to be more exact, memorial services. It is thought that originally the ceremonies were a tribal custom to honor those who had died within a previous given period of time.

The ancient Greeks believed that when a person died the spirit remained in the community where he had lived. They believed that these spirits were constantly watching the tribal activities of the community; and since surviving relatives and friends were anxious to please the spirit of each of the departed, records were kept as to what had been the greatest love of the spirit when the spirit had belonged to the living body. Accordingly, when it came time for these religious ceremonies to be planned, efforts were made to include those kinds of activities which would be most pleasing to the departed spirits. These activities included oratory, art, music, and poetry, as well as athletic contests. Each tribe strove to make its programs of the highest calibre to pay homage to the gods, as well as to the spirits of the dead, who would be gratified by such spectacles as had delighted them during their earthly life.

In those early years, and for many centuries to come, Greece was known as Hellas. It was a disunited country with constant tribal warfare preventing any type of unification. Each tribe or city had its own king and each clung tenaciously to its own sovereignty. There is some dispute among historians as to whether or not the combining of these early games or festivals was contrived in an attempt to unite the cities of Greece or simply to show intellectual and physical superiority by competing with one another. Regardless of their motivation, tribal chiefs and kings agreed to send their best athletes, orators, musicians, poets, and so forth, into events at Olympus and other sites but refused to abandon the local individual ceremonies which had been their custom for over five centuries. Gradually these festivals lost their local character and became Pan-Hellenic (All-Greece).

Four of these festivals, the Olympian, Pythian, Nemean, and Isthmian, attracted visitors and competitors from all over Greece and later other countries as well; but the one held at Olympia was by far the most important and was consecrated to the god Zeus. Olympia was never a city-state like the other Greek cities of that time; it was considered a neutral religious center, established by a solemn agreement among the Grecian kings as inviolable to armed force and political antagonism. Citizens from all parts of Greece came to this center to pay homage to the gods or to take part in competitions.

The earliest known Games at Olympia have been historically recorded since 776 B.C., and the first recorded victor was Coroebus of Elis. The Olympiad held in that year is considered as the first and has been taken as a measurement of time for subsequent, dated Olympiads. It is also recorded that contests and religious ceremonies took place at Olympia long before that date. Evidence of this, historically corroborated, was a peace treaty signed in 884 B.C. by three kings—Ithicus of Elis, Cleosthenes of Pisae, and Lycurgus of Sparta—found in the 2nd century A.D. There is evidence that this peace treaty was inscribed on a copper plate, which in those days was used as a discus. (The discus, incidentally, was the symbol of strength for the Greeks: the man who could throw the discus the farthest was ranked as the greatest athlete.) Under this treaty, the area surrounding Olympia was declared neutral: the sanctity and inviolability of the area were secured; and the entrance to the valley where the temples, altars, and sanctuaries were located and where the athletic and other cultural events took place, was forbidden to anyone bearing arms. During the sacred month of the Games, hostilities were suspended and free passage was granted to those who wished to come to Olympia, even if they had to cross enemy territory.

Olympia was thus an area of peace and tranquility. The setting was ideal for the building of the stadium. It was in a valley formed by the Cronion (sometimes spelled Kromion) Hill adjacent to two rivers, the Alpheus and Cladeus, and just beyond the Altis (a grove of trees). The stadium was an oblong area of over 600 feet in length and nearly 100 feet wide. It consisted of four sloping heights, two at the sides and two at the ends. The spectators sat on the grassy slopes which could accommodate more than 40,000.

In the ancient days, the twelve labors of Hercules which adorned the temple of Zeus in the Altis were the guiding forces in preparing the athlete to master his passions in order to live by the moral commands before launching himself into Olympic contests. And so the athlete after arduous physical and mental training was ready to enter the sanctuary of Altis and offer the consecrated sacrifices to the gods. This was the format so wisely planned by the Elian organizers whose success in those early Olympiads was undisputed. Physical training and competition made the athlete renew his ties with the creative forces in the natural world, increase his strength and vitality, and acquire a physical, mental, and spiritual unity that gave his character the courage and ethical pride of a free, competitive man. His victory in the stadium thus became a completion of his education, a manifestation of the beauty of the whole man—truly *mens sana in corpore sano*.

The ceremony of the ancient Games was not unlike that of today. It started with a procession through the streets and into the stadium where the contestants were greeted with partisan cheers. They prayed and took an oath before their gods that they would compete fairly and to the best of their abilities; they prayed for victory, but "only if I am best." Each event was run separately, with a fanfare of trumpets preceding and following each contest. At the conclusion of the contest when the trumpets were blown, the crowds became silent. The judges then announced the winner and a branch from a palm tree was placed in his hand; a wreath, a simple crown of leaves from the wild olive trees that grew in the sacred Altis, was put on his head. Today we substitute national anthems and gold medals. The palm and wreath was the only award allowed the athletes for many years until some time after the 61st Olympiad, when permission was granted to erect statues in honor of the victors. Successive victories had to take place, however, before the statues could be carved. It is believed that more gratuities were bestowed upon the athletes in their home cities, usually in the form of wining and dining, gifts, and exemption from taxation.

During the festivities at the end of each Olympiad, in the sacred awe inspired by the religious ceremonies and the lofty feeling engendered by the concept of fair competition and by the high moral standards exemplified by the competing athletes and Elian officials, those Greeks who came to this valley from all parts of Greece felt united by a common past and realized that they were bound together by the same beliefs and inspired by the same dreams. With almost the first Olympic Games the warring tribes in the quarreling cities soon forgot their bitterness and thereafter Greece became a united nation.

For the first dozen Olympiads it is surmised that the competition consisted mostly of a single race approximately the length of the stadium (200 yards). The race was called the stadion (race of 192 meters), from which our word *stadium* was derived. During that time the athletes of Elis demonstrated athletic superiority and indeed maintained an unbroken string of victories until the 14th Olympiad.

In the 14th Olympiad a second race of two lengths of the stadium was added, and in the 15th an endurance event of 12 times around the stadium, about 4½ kilometers, was also added. There are no data as to what events beyond foot racing made up these first Olympic programs, but later it is recorded that discus throwing, wrestling, jumping, javelin throwing, and pugilism were added. In the track events the athletes usually competed in groups of four, with the winners meeting the other winners until the final race was run.

In 708 B.C. at the 18th Olympiad, pentathlon and wrestling events were introduced. In the pentathlon, those who jumped a certain distance qualified for the spear throwing; the four best then sprinted the length of the stadium (200-yard dash); the three best then threw the discus; and the two best then engaged in a wrestling match to the finish. [Although this pentathlon differs from our modern pentathlon, it is nevertheless almost identical to that which appeared in the modern Olympic competitions until about 1912 in Stockholm, when the legendary Jim Thorpe won but later had his name and scores stricken from the record because he was declared a professional. Those events were the broad jump, javelin throw, 200-meter run, discus throw, and a 1500-meter run in place of the wrestling. Thorpe had also won the decathlon, setting new Olympic records; but first place was awarded to Hugo Weislander of Sweden who had finished second.]

Over the years the Greeks added to the competitions, including such things as chariot racing, pancration (a fierce combination of boxing and wrestling), and in 580 B.C., the armed race in which men ran the stadium twice, laden with heavy armor.

The Olympic Games continued to flourish as a Greek institution until the middle of the second century before Christ, when Greece was conquered and came under the domination of the Romans. The Games were permitted to continue, but the Romans at first had little interest in them.

The Greeks continued to participate zealously in the Olympic Games; since they had lost their identity as a nation and become only a province of the Roman Empire, it was the one manifestation of national unity left to them. Eventually, spectator interest among the Romans became quite strong, and they in turn encouraged their youth to strive for perfection and to enter the Games.

The Games continued amicably for many years but eventually encountered discord and scandal. The Greeks charged that the Roman champions capitalized on their victories by going on personal appearance tours and accepting cash or some other type of remuneration not in keeping with amateur rules. The Romans denied these accusations and continued to participate in the Games despite protests from the Greeks over the amateur status of the Roman contestants. This animosity continued during subsequent Olympiads; finally the Romans—angered to a frenzy by the Greek charges of professionalism—went on a rampage, setting fire to buildings and wrecking much of the stadium and its environs. As a result of this and other uprisings, the Emperor Theodosius of Rome abolished the Games after the Olympiad of 392 A.D., calling them a public nuisance. A fitting epitaph might be expressed in the words of Edgar Allen Poe: "To the glory that was Greece, and the grandeur that was Rome."

[It is with grave concern and historical perspective that we note the constant challenges regarding amateurism and professionalism which becloud the Olympic Games today. Disqualification of athletes is causing much furor among some nations and many athletes. Interpretations and clarifications must continue to be made on an international level, since all nations seem to have different standards of amateurism.]

The early Olympic Games survived a period of just under 1200 years—nearly 300 Olympiads. Ten centuries later an earthquake (sometime during the sixth century A.D.) wrecked the stadium at Olympus, and later a landslide buried the entire area under dirt, stones, and debris to a depth of 20 feet. It remained so buried until about 100 years ago, when German archaeologists began to dig and remove the soil overlying Olympus.

The task was completed in 1881, eleven years before Baron Pierre deCoubertin of France proposed the revival of the ancient Olympic Games. At a meeting of the Athletic Sports Union at the Sorbonne in Paris, November 25, 1892, deCoubertin first publicly proposed to bring the nations of the world together in sports competitions as a means of enhancing the cause of peace. His proposal to revive the Olympic Games met with indifference; however, he persisted in his efforts.

His next opportunity came in the spring of 1894 at an international congress which he had assembled for the purpose of studying the questions of amateurism. Officials from France, England, the United States, Greece, Russia, Sweden, Belgium, Italy, and Spain were in attendance; Hungary, Germany, Bohemia, Holland, and Australia sent either letters or proxies. The agenda was structured with seven questions on the problem of amateurism. DeCoubertin took the liberty of adding an eighth at the meeting—the possibility of the revival of the Olympic Games. So well prepared and enthusiastic was his presentation that it was unanimously agreed by the delegates on June 23, 1894, to revive the Games as an international effort. Subsequently an International Committee was formed to supervise the conduct and development of the Games.

Pierre deCoubertin (1863-1937) possessed a deep knowledge of history and the arts and was a student of pedagogic methods, the problems of education, and sociology. In his late teens he began to examine critically the weaknesses of his people who were trying to recover self-respect following the Franco-Prussian war. He was not long in concluding that the upbringing of French youth had many deficiencies. He felt that their education should be enriched with the idealism which would lead young people to harmonious physical and intellectual development. He knew that a good citizen should possess above all a healthy body, good character, and noble sentiments. He observed that the basis of education in his generation was the teaching of grammatical forms and the acquisition of knowledge, with no significance attached to the development of character, physical well-being, or spiritual and aesthetic enrichment. He believed, as did philosophers before him, that man was not two parts, body and mind, but that he was one entity, and that we ought not divide him into parts. DeCoubertin found the sources for his thinking in the study of the ancient Greek authors of the classical period. It occurred to him that there must have been valid reasons for the keen interest aroused among all Mediterranean peoples by the Games of the early Greeks, for their being a highly dynamic element in the life of ancient Greece while that nation dominated the world scene, and for their remaining the most brilliant periodic event of the ancient world for as long as 1200 years.

His studies led him to the recognition that the ancient Greeks used competitive sport neither as a means of developing only the body nor as a cheap spectacle, but rather as a way of shaping human personality and character. This combination of the training of the body and the mind concurrently and its culmination in competitive sports led to the development of the perfectly and fully integrated human personality.

As a man of means deCoubertin traveled throughout England and America and observed the athletic programs of those countries. Competing for a place on an athletic team seemed to develop qualities of character, and athletics was given much support in the schools of England. In America, still an emerging nation seeking unity after a great civil war, the emphasis on sports and physical training was starting to find its way into the schools. While there were no required programs in the elementary and secondary schools at that time, the colleges were beginning to lead the way, and physical education was emerging as a profession. This was not true in the schools of France where it was thought that games were frivolous and destroyed scholarly pursuits. DeCoubertin became convinced that he should devote his entire time and energy to securing a pedagogical reform in his own country, and as a true humanitarian he wished his efforts to embrace not only the youth of France, but the youth of all nations.

Educational reforms are notoriously slow, but deCoubertin was persistent. At the outset deCoubertin was not particularly enthusiastic about team games, feeling that individual competition was the best developer of strength of character, but it is interesting to note his change in attitude. In 1912 he presented King Leopold of Belgium with an interesting short paper about what we would call a sports school—that is, one which teaches all subjects but includes sports as one of the most important. In this

school, deCoubertin thought, there should be 13 hours a week dedicated to gymnastics, games, and sports: gymnastics a half hour, four times a week; *gymnastique utilitaire* ½ hour, four times a week; and 2½ hours for games. The most important thing was that students had to organize and conduct their own games, elect their own leaders, and choose their own teams. This seemed to be the basis for his Olympic programs: to give the individual more self-education, more self-organization, more satisfaction through self-discipline and competition. And honor should be held above all.

Baron deCoubertin's idea was not only to organize sport and competitions, but to set up a pedagogic movement in society, especially in France, in order to place sport in its proper eminent position in the education of young people. His motivations were immediate and his inspirations both proximate and far-reaching. He drew not only from the culture of ancient Greece but also from the spirit and grace of medieval chivalry and from the values of sport as he had seen them on the playing fields of Eton in England and in the United States.

DeCoubertin felt that peace would be furthered by the Olympic Games, but peace was not their major aim. Peace could be a by-product of a better world; a better world could be brought about by better understanding among individuals. DeCoubertin believed that the foundation of real human morality and understanding lies in mutual respect, and that to respect one another it is necessary to know one another. Athletes speak the universal language of sports experience, creating a camaraderie known to no other area of endeavor.

The Olympic creed, which expresses the founding spirit of deCoubertin, is essentially this: the most important thing in the Olympic Games is not to win but to take part, just as the most important thing in life is not the triumph but the struggle. The essential thing is not to have conquered but to have fought well.

During the meeting in 1894, two important decisions were made. The first was the choice of Athens, Greece as the site for the first of the modern Olympic Games to be held in 1896. Second was the formation of the International Committee, which would govern the conduct of the Games.

The first president of the newly formed International Olympic Committee (a name which was adopted later) was Demetrias Vikelas of Greece, who served from 1894 to 1896. During these two years a generous donation by M. Averoff of Alexandria made it possible to build—in time for the 1896 Olympics—a stadium in Athens duplicating that which was used for centuries by the early Greeks.

The aims of the Olympic movement were written early and laid down as fundamental principles of the IOC: "The aims of the Olympic movement are to promote the development of those fine physical and moral qualities that come from contests on the friendly fields of amateur sport and to bring together the youth of the world in a great quadrennial sport festival, thereby creating international respect and goodwill, and helping to construct a better and more peaceful world. . . . the Olympic Games are held every four years. They assemble amateurs of all nations in fair and equal competition. No discrimination is allowed against any country or person on grounds of race, religion or political affiliation" (IOC rules, p. 17).

The International Olympic Committee is self-perpetuating and membership is for life. Fundamentally, members of the International Olympic Committee are representatives of the IOC in their own countries and *not* delegates of their country to the IOC. They may not accept from the governments of their countries, or from any organization or individual, instructions which will in any way bind them or interfere with the independence of their vote. Essentially there is only one member from each country. There may be two members, however, from the largest countries which are most active in the Olympic movement, and from those countries where the Olympic Games have been held.

From among its members the International Olympic Committee elects a president to an eight-year term of office. After the first term of office he is eligible for re-election to successive terms of four years. Pierre deCoubertin of France was the second president, serving from 1896 to 1925; third was Count deBaillet-Latour of Belgium, 1925 to 1942; fourth, J. Sigfried Edstrom of Sweden, 1946 to 1952; fifth, Avery Brundage of the United States, 1952 to 1972; and in 1972 Lord Killanin of Ireland was appointed.

The announcement of the revival of the Olympic Games in 1894 was not well publicized in the United States. A United States representative, W. M. Sloan, was at the meeting; but apparently the American press considered it to be a European activity, and since we had no American Olympic Committee there was little interest. There were some young men, however, who heard of the Games and became interested. Four men from Princeton University—Robert Garrett, Francis Lane, Herbert Jamison, and Albert Tyler—decided to enter the Games, since Garrett was in a position to defray the traveling expenses of all four. John Connolly, a Harvard freshman, asked permission to go along and pay his own way. Five other non-university students had some athletic reputation but no funds to make the trip. The Boston Athletic Club, learning of their plight and realizing their potential, raised the money to defray their expenses; that is how Thomas Curtis, Thomas Burke, Hillory Clark, William Hert, and Arthur Blake completed the roster of the American Olympic team. Ten strong, they arrived in Athens on April 6, the first day of competition, after a long and arduous sea voyage. There were some trials held in the running events but the first final event of a 12-contest program was the hop-step and jump, now called the triple jump; John Connolly, the Harvard freshman, was an entry. He won the event with a distance of 45 feet and thus became the first Olympic Games champion to be crowned in more than fifteen centuries.

The Americans had not arrived in Greece early enough to institute a training program, but their previous training must have been superior because they won nine of the twelve events on the program. There were three double winners—Burke in the 100-meter and 400-meter, Clark in the high jump and long jump, and Garrett in the shot put and discus. Incidentally, it is reputed that Garrett had never thrown a discus in his life prior to the Olympic competitions. It is said that he took some instructions from a youthful Greek competitor who understood and spoke little English. After several practice throws, Garrett decided to enter the discus competition and tossed the discus 95 feet, 7½ inches to win the event.

Other United States winners in the first Olympiad were Curtis in the 110 meter hurdles, Hoyt in the pole vault, and Connolly in the triple jump. In the 800 meters, Edwin Flack of Australia was the victor; he became a double winner when he also finished first in the 1500 meters. The twelfth event on the program was the marathon, won by Spiridon Loues of Greece.

In the first modern Olympic Games in Athens there were 10 nations competing, with a total of 285 athletes. By the time of the XIX Olympiad in Mexico City, that number had increased to 112 nations and over 6,000 athletes. The Games have almost doubled in terms of numbers of countries represented since the 14th Olympiad held in London in 1948, where there were 59 countries participating. The first twenty Olympiads of the modern era are shown in the accompanying table.

The sports in the Olympic program have increased from 10 in the first Olympiad and were as high as 19 in Antwerp in 1920. Since that time they have leveled off in number; however, eight have been eliminated from the program. Four of these were eliminated before 1920 and four since 1920. They are listed as follows with the last year of competition in each sport shown in parentheses: lacrosse (1908), motor boating (1908), paume tennis (1908), rackets (1908), lawn tennis (1924), rugby football (1932), gliding (1936), and polo (1936).

There are now 22 sports on the official program of the International Olympic Committee, and according to IOC rules at least 15 must be included in each Olympiad. In the Games at Munich in 1972, competitions were held in all 22 sports for the first time. These sports are archery, athletics (track and field), basketball, boxing, canoeing, cycling, equestrian sports, fencing, field hockey, football (soccer), gymnastics, judo, modern pentathlon, rowing, shooting, swimming and diving, team handball, volleyball, water polo, weight lifting, wrestling, and yachting. Separate competitions for women are held in athletics (track and field), canoeing, fencing, gymnastics, swimming and diving, and volleyball, but they may compete with men in archery, equestrian sports, shooting, and yachting.

A comparison between the records of 1896 and those of the 19th Olympiad in Mexico City is interesting. The United States has continued to maintain supremacy in athletic (track and field) events. Of the twelve events listed, new records were set at the 1968 Olympics in eleven (all but the marathon). It is also interesting to note that all times and distance records set by women in 1968 bettered the original men's records. A complete comparison of these records appears in the table on page 10.

After 72 years, the United States repeated victories in all of its originally won events with the exception of the triple jump, which was won in 1968 by Saneyev of Russia. Australia repeated its victory in the 800 meters but failed to do so in the 1500 meter run. Greece did not repeat as a winner in the marathon; and, as a matter of fact, although we think of a runner representing Greece in the great marathon run to carry the Olympic torch from Greece, that country has not won another marathon in any subsequent Olympic Games.

The words in the last sentence, "a runner representing Greece" are chosen purposefully. United States supremacy in certain events was mentioned earlier, leading the reader to believe that the Olympic Games are competitions between nations. This is untrue, and although there are some team events in the Olympics, its primary purpose is individual competition between peoples of the world and not countries of the world. In the first Olympics at Athens, however, the newspapers in the United States announced at the conclusion of the Olympic Games that "USA wins Olympics." Of course this was an

Olympic Games of the Modern Era

Olympiad	*Site*	*No. of Nations*	*No. of Sports*	*Dates of Competition*
I	Athens, Greece	10	10	1896, April 6-15
II	Paris, France	20	12	1900, May 20-September 20
III	St. Louis, Mo., USA	10	10	1904, July 1-October 15
IV	London, England	22	17	1908, April 27-October 27
V	Stockholm, Sweden	28	15	1912, May 5-July 19
VI	Berlin, Germany	—	—	Not celebrated, World War I
VII	Antwerp, Belgium	29	19	1920, July 22-September 5
VIII	Paris, France	44	18	1924, May 4-July 27
IX	Amsterdam, Netherlands	46	16	1928, May 17-August 12
X	Los Angeles, Calif., USA	37	17	1932, July 30-August 14
XI	Berlin, Germany	49	19	1936, August 1-16
XII	Tokyo & Helsinki	—	—	Not celebrated, World War II
XIII	London, England	—	—	Not celebrated, World War II
XIV	London, England	59	19	1948, July 29-August 14
XV	Helsinki, Finland	69	19	1952, July 18-August 3
XVI	Melbourne, Australia*	67	19	1956, November 22-December 8
XVII	Rome, Italy	84	18	1960, August 25-September 11
XVIII	Tokyo, Japan	94	20	1964, October 10-24
XIX	Mexico City, Mexico	112	19	1968, October 12-27
XX	Munich, Germany	122	22	1972, August 26-September 11

* Equestrian sports held in Stockholm, Sweden, June 10-17, 1956

error; under Olympic Games rules, no nation is ever a winner.

Over the years the communications media have developed a point system awarding so many points for first, second, third, fourth place and so forth, but this is strictly a media calculation and not an Olympic method of scoring. Naturally, each country strives to make the best possible showing and win the most medals; but there is grave danger in the competitions becoming nationalistic rather than individualistic. It is well to point out that the supposed United States supremacy over the years, in terms of medals and places won in each event, is due primarily to our victories in track and field and swimming. There are a total of 71 individual and relay events in track and field and swimming in which contestants can win medals (and, according to the newspapers, score points); this number includes a large portion of the total number of events (194 in the 1972 Olympiad) in which medals can be won. In the 1968 Olympiad the United States won a total of 107 medals, including 45 gold. Of the total number, 86 were won in track and field and swimming.

The top ten finishers in terms of number of medals won in the 1968 competitions were United States, 107; second, Soviet Union, 91; third, Hungary, 32; Japan, East Germany, and West Germany, 25 each; Poland, 18; Australia, 17; Italy, 16; France and Rumania, 15 each; Czechoslovakia and Great Britain, 13 each; and Kenya, Mexico, and Bulgaria, 9 each.

Under International Olympic Committee rules, medals and diplomas are awarded for first, second, and third place finishers, and diplomas only for fourth, fifth, and sixth places. Although the first place medal is commonly called gold, actually it is made of silver as is the second place medal, but "the first place [medal] shall be strongly gilded with at least six grams of fine gold" (IOC rules). The third place medal is bronze. Similar to a custom of the early Greek Games, the names of all winners are inscribed on the walls of the stadium where the Games have taken place.

As can be seen from the number of events presently in the Olympics, many additions have been made to the original 12 events on the 1896 Olympic program. In the early 1900s ice skating was a popular sport in Europe and there was some impetus to have it become a part of the Olympic Games. It is reported that in the 6th Olympic Summer Games in London in 1908, the program included skating and because of its popular appeal it was proposed that they continue to be part of the Summer Games. There was opposition to this by the Scandinavian countries, especially Sweden, on the grounds that the Nordic Games was the proper place for winter sports. The Nordic Games had been created in 1900 as a counterpart to the Olympics, but they failed to achieve the international stature of the Olympic Games.

During meetings of the International Olympic Committee in Paris in 1914, and again in Antwerp in 1920, proposals to establish Olympic Winter Games met with little success. The Norwegians and Swedes were still violently opposed to the introduction of Winter Olympic Games and even suggested that some of the European countries (France, Switzerland, and Italy) not be allowed to vote on the issue.

The movement toward the establishment of Olympic Winter Games gained momentum, however, and at a consultative conference on winter sports in 1921 it was decided to organize an international Winter Sports Week at Chamonix, France in 1924. The competitions in Chamonix met with great success and did much to make winter sports internationally popular. This Sports Week later went down in history as the first Olympic Winter Games.

At these first Winter Games, 293 contestants from 16 countries participated in a program consisting of Nordic skiing (cross-country and jumping); figure skating for men, women, and pairs; speed skating (added for women in 1960); bobsledding (four-man teams); and ice hockey. The Games now have added downhill and slalom (alpine) skiing events (1948); increased the number of speed skating events; provided for two-man bobsledding as well as four-man teams; and added winter biathlon (1960) and luge (1964) to the total number of events. Speed skating is normally considered apart from figure skating, thus giving a total of seven sports in the Winter Olympic Games.

At the first Winter Games the Scandinavian countries, Finland, Norway, and Sweden demonstrated almost complete superiority. The only exceptions were a first place medal for Austria in women's figure skating, Canada's first place in ice hockey, and the United States in the 500-meter speed skating. This, too, has changed over the years.

At an International Olympic Committee conference in Prague in 1925, a separate cycle and charter for the Winter Olympic Games were drawn up. The charter stated that these Winter Olympics would be officially called the Winter Games and that they would be held the same year as the Olympic Games. They were to be governed by the same rules of protocol; but the prizes, medals, and diplomas must be different from those of the Olympic Summer Games. They were also to have their own numerical designation, with the first Winter Games coinciding with the 8th Olympiad.

Olympic Records—1896 and 1968

Event	*1896*	*1968*	
		Men	*Women*
100 meters	12.0 Burke (USA)	9.9 Hines (USA)	11.0 Tyus (USA)
400 meters	54.2 Burke (USA)	43.8 Evans (USA)	52.0 Besson (France)
800 meters	2:11.0 Flack (Australia)	1:44.3 Doubell (Australia)	2:00.9 Manning (USA)
1500 meters	4:33.2 Flack (Australia)	3:34.9 Keino (Kenya)	not a women's event
marathon	2:58.50.0 Loues (Greece)	2:20:36.4 Wolde (Ethiopa)	not a women's event
110 meter hurdle	17.6 Curtis (USA)	13.3 Davenport (USA)	not a women's event
pole vault	10′ 9¾″ Hoyt (USA)	17′ 8½″ Seagren (USA)	not a women's event
high jump	5′ 11¼″ Clark (USA)	7′ 4¼″ Fosbury (USA)	5′ 11¾″ Rezkova (Czechoslovakia)
long jump	20′ 10″ Clark (USA)	29′ 2½″ Beamon (USA)	22′ 4½″ Viscopoleanu (Rumania)
triple jump	45′ Connolly (USA)	57′ ¾″ Saneyev (USSR)	not a women's event
shot put	36′ 9¾″ Garrett (USA)	67′ 4¾″ Matson (USA)	64′ 4″, Gummel (East Germany)
discus	95′ 7½″ Garrett (USA)	212′ 6½″ Oerter (USA)	191′ 2½″, Manoliu (Rumania)

The Winter Games are numbered in rotation as they are held, while the Olympic Games are numbered consecutively every four years from their beginning, even though they were not held in 1916, 1940, and 1944 because of World Wars I and II. The Winter Games, which were not held in 1940 and 1944, did not assign numerical designations to those years as did the Summer Games. Although an Olympiad is a period of four years and the Winter Games are held in the same year as the Olympic Games, according to IOC rules, the term Olympiad may not be used in connection with the Winter Games. The logic of this is subject to much discussion.

Olympic Winter Games

No. and Year	*Site*	*No. of Nations*	*No. of Sports*
I—1924	Chamonix, France	16	5
II—1928	St. Moritz, Switzerland	25	5
III—1932	Lake Placid, N.Y., USA	17	5
IV—1936	Garmisch-Partenkirchen, Germany	28	5
V—1948	St. Moritz, Switzerland	28	6
VI—1952	Oslo, Norway	30	5
VII—1956	Cortina, Italy	32	5
VIII—1960	Squaw Valley, Calif., USA	30	5
IX—1964	Innsbruck, Austria	36	7
X—1968	Grenoble, France	35	7
XI—1972	Sapporo, Japan	35	7

The United States entries have done reasonably well in the Winter Games; they have won at least one gold medal in each of the Games since their origin in 1924. The lone gold medal winner in 1924 was Charles Jewtraw in the 500-meter speed skating event. The best year on record in terms of gold medals won was 1932, when competitors from the United States won five. John Shea won gold medals in the 500- and 1500-meter speed skating; Irving Jaffee in the 5,000- and 10,000-meter speed skating; and the four-man bobsled team also took first place in the Games at Lake Placid, New York. The first gold medal won by a United States woman was that won by Gretchen Fraser in the women's slalom in 1948. Women's activities in the Winter Games had been restricted to figure skating until 1936 when there were entries in the alpine combined (downhill and slalom skiing). This event was discontinued after the 1948 Olympics, after which separate competitions were held for downhill and slalom events. The first American woman to win two gold medals was Andrea Mead Lawrence, who took a first in both the slalom and giant slalom in 1956.

There are a total of 37 events in the Winter Games in which medals can be won, making a total of 111 medals. The United States, although showing much improvement in the last two Winter Games, was still able to capture only seven at Grenoble (1 gold, 5 silver, 1 bronze) and eight at Sapporo (3 gold, 2 silver, 3 bronze).

The record for most gold medals won in a single Winter Olympic Games was in 1964 by Lydia Skoblikova of Russia, who swept all four events in women's speed skating (500, 1000, 1500, and 3000 meters). While there were many who won gold medals in two consecutive Winter Olympics, the only person to win three consecutive gold medals was Sonja Henie for women's figure skating in 1928, 1932, and 1936. This record has been exceeded by only one other Olympian, that in the Summer Olympic Games. Al Oerter won four gold medals in discus competition for four consecutive years—1956, 1960, 1964, and 1968.

Interest in both the Olympic Games and the Winter Games has been growing steadily over the years, but with the increased exposure being given it through television in 1972, it is safe to say that never before in the history of man have so many people been exposed to the mystique, excitement, and splendor of these Games; a potential audience of 500 million may be watching.

In these days of international strife and misunderstanding people are seeking some medium through which all quarreling nations can better know and understand each other and, hopefully, create a more peaceful world. A concept of the early Greek Olympics and the ideology of the modern Olympic movement seem to provide a forum to promote the concept of world peace and understanding. However, the Olympics themselves are beclouded with problems of extreme nationalism, disputes over amateurism and professionalism, problems of finances for host nations and competing teams, racism, and much more. Many questions are being asked. Are there too few or too many sports, or too many events in certain sports? Are there too many sports indigenous to the culture and geography of certain countries? Should some sports have government subsidization? Should we reduce the number of team events? Are there inherent dangers in over-expansion and perhaps over-exposure of Olympic sports? These questions are constantly before the International Olympic Committee as well as before the national sports governing bodies in every country.

One most important question that needs to be asked is, Have we come so far that we have forgotten whence we came? In the words of the Greek philosopher Xenophanes of Colophon, "Truly the Gods did not from the start reveal to us mortals everything, but in the course of time, searching we find improvement." Have we forgotten that to take part in sports or sporting contests, in the noble sense of the word, means to transcend the circumstances of birth, race, and religion? In sports competitions there can be only one determining factor: the moment of truth when the contest is over. Who is best at that particular moment? In most branches of sports, and in the majority of cases, this honor really goes to the best competitor regardless of race, color, creed, or national origin.

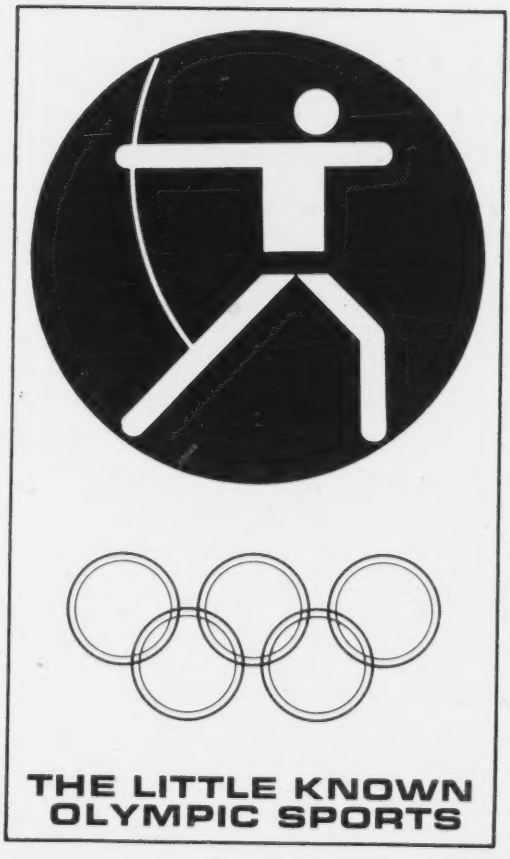
In what other field but amateur athletics do world record holders not just cheer for, but actually try to assist, younger competitors in breaking the records that they themselves have previously established, thus wiping out their small claim to immortality? Through what other forum but amateur athletic competition can we so beautifully put into practice the teachings of the Torah, the New Testament, or the Koran? The problems facing the Olympics today seem to mirror many of those which plague the world as a whole. Not surprisingly, a guide to their solution may be taken from the ideology expressed in the Olympic creed:

> The most important thing in the Olympic Games is not to win but to take part, just as the most important thing in life is not the triumph but the struggle. The essential thing is not to have conquered but to have fought well. □

LURA R. WILSON, director of guidance at Greene Central School in Greene, New York, is one of the nominees for Archery Olympic Coach in 1972. She is acting director of Teela Wooket Archery Camp in Roxbury, Vermont; a member of the Board of Governors of the National Archery Association; and an honorary member of the Association of Women in Physical Education of New York State. A graduate of Syracuse University, Miss Wilson has done graduate work at Cornell University, Colgate University, and State University of New York Colleges at Oneonta and Cortland. She has taught physical education in Riverhead, Schenectady, and Greene, New York, for 27 years.

Archery

"The basic skills and techniques necessary to shoot a bow are common to men, women, and children, and have remained almost constant since 1545."



The origins of archery are unknown, but artifacts indicate that it dates back to the Paleolithic Period some 15,000 to 20,000 years ago. From its beginnings as a method of procuring food for early man, it gradually developed into a weapon of war. The armies of Kublai Khan and the Medes and Persians of Biblical times used the short Turkish bow, made from horn and sinew. This bow, a forerunner of the modern flight bow, was very short and most effectively used from horseback. Best known historically are the feats of such individuals as Robin Hood and William Tell and the battles won by the longbow, such as Hastings, Crecy, Poitiers, and Agincourt. In the Americas, the bow, which probably came over a land route from the Orient about 20,000 years ago, became the most efficient food-getter and war weapon of the Indians.

With the advent of gunpowder, the bow lost its utilitarian status, but archery lost none of its lure. Archery clubs were formed in England, some of which continue to this day. When the English Royal Toxophilite Society was formed in 1781, archery as a sport was firmly launched and the club has continued uninterruptedly to the present day. In the United States the first club was the United Bowmen of Philadelphia, organized in 1828 and still active today. In 1879 the National Archery Association was organized and held its first national tournament. With the continued growth of both target and field archery over the years, and the continued improvement of tackle from technical knowledge, other important archery groups have been organized: the world organization, Federation Internationale de Tir a l'Arc (FITA) in 1931, the National Field Archery Association in 1939, Ammo-Archery Manufacturer's Organization in the 1950s, and the Professional Archery Association in 1961. Archers competed on a demonstration basis in the 1968 Olympic Games. In the 1972 Games in Munich, archery will be an Olympic sport.

The basic skills and techniques necessary to shoot a bow are commen to men, women, and children and have remained almost constant since 1545 when Roger Ascham published the first book on archery, *Toxophilus*. These skills include seven basic steps: stance, nock arrow and hook fingers on string, draw, anchor or back aim, aim, release, and follow through.

Improvements in archery equipment over the past twenty years are chiefly responsible for archery's tremendous growth in popularity as a sport. Bow and arrow design, as well as new and better materials to work with, have made it possible for the modern archer to compete without the strength of Hercules.

To shoot, all archers must have forearm and finger protection, an arrow holder (quiver), bow, arrows, and a target. The arm guard, finger tab, and quiver are minor cost items and can be purchased to fit the archer for less than five dollars. The target cost is dependent upon the type of archery, but a regular 48" target matt, stand, and face costs about fifty dollars.

Present day tournament bows are sleek modifications of the best of the Turkish horn and sinew bows and the English longbows. They usually range in length from 62" to 70" and in draw weights from 20 to 60 pounds. The limbs are working recurves formed from laminations of fiberglass and wood; most handle riser sections are solid or laminated wood, although some are metal. Stabilizers have been added to bows to absorb shock and prevent torque; personal preference and bow design determine length and number. (FITA rules state no more than four stabilizers.) All tournament bows require an arrow rest which is attached in the sight window, a modern invention necessitated by increased mass in the handle riser section. A wide variety of commercially manufactured bow sights is available to the archer.

Arrows, too, have been perfected. The wooden arrow of yesteryear is found only on a beginner's range. Tournament arrows are glass or aluminum tubes fletched with either feathers or plastic vanes with stainless steel points inserted. Aluminum arrows far outnumber any others for tournament competition.

Scopes or binoculars may be used in competition to spot arrows in the target.

"Best known historically are the feats of Robin Hood and William Tell and battles won by the longbow—Hastings, Crecy, Poitiers, Agincourt."

Archery has not been included in the Olympics in modern times, and hence, no Olympic records have been set. In 1972 in Munich, Germany, this will change. All competitors will be attempting to set Olympic records which will outpoint the present world records set in World Championships or Star FITA tournaments. Presently the United States holds two ladies and three gentlemen's records in the Single FITA Round. Hopefully, the teams representing the United States in 1972 will hold as many or more records when the Olympics are concluded.

Ladies' World Records

			Year	Record	Max. Possible Score
Total	Irene Szydlowska	Poland	1971	1229	1440
70 meters	A. Peunova	U.S.S.R.	1971	301	360
60 meters	Irena Szydlowski	Poland	1970	317	360
50 meters	Nancy E. Myrick	U.S.A.	1967	305	360
30 meters	Hanna Brzezinska	Poland	1970	336	360
Team	M. Mezinska J. Szojzler Irene Szydlowska	Poland	1971	3518	4320

Gentlemen's World Records

			Year	Record	Max. Possible Score
Total	A. Jacobsen	Denmark	1971	1254	1440
90 meters	Ray Rogers	U.S.A.	1969	294	360
70 meters	John C. Williams	U.S.A.	1969	320	360
50 meters	A. Jacobsen	Denmark	1971	322	360
30 meters	A. Baeyens	Belgium	1971	348	360
Team	J. C. Williams H. Ward R. Rogers	U.S.A.	1969	3606	4320

National Championship Records set at the National Tournament in the United States include three rounds: one FITA, one "900", and one American Round. These three rounds are shot by intermediate boys (15-17), gentlemen, intermediate girls (15-17) and ladies. Only the total round records for these four groups are included. Complete copies may be obtained from the author.

National Championship Tournament Records

		Year	Record	Maximum Possible Score
Ladies				
FITA	Doreen Wilber	1971	1185	1440
900	Doreen Wilber	1971	809	900
American	Clela Wanamaker Doreen Wilber	1971	772	810
Intermediate Girls				
FITA	Cynthia Slade	1968	1039	1440
900	Cynthia Slade	1968	764	900
American	Cynthia Slade	1968	730	810
Gentlemen				
FITA	Ray Rogers	1967	1227	1440
900	Edwin Eliason	1969	842	900
American	Joe Thornton	1970	796	810
Intermediate Boys				
FITA	Kevin Erlandson	1971	1185	1440
900	Raymond Wade	1970	825	900
American	Douglas Brothers	1970	786	810

The sports governing body for archery is the National Archery Association, 2833 Lincoln Highway East, Ronks, Pennsylvania 17572. Clayton B. Shenk is executive secretary. Questions concerning the sport of archery may be addressed to the executive secretary or to the president of the National Archery Association, Marvin Kleinman, 999 Second National Building, Cincinnati, Ohio 45202.

In order to understand and appreciate archery as a sport, it is necessary to be acquainted with the language of the sport. Some of the more important words used in discussing archery competition should be meaningful to the archer, the coach, and the spectator.

Field Captain—the gentleman who is in charge of a tournament.

Lady Paramount—the lady counterpart of the Field Captain.

Technical Commission—a five member team made up of 2 International Judges and three Candidate International Judges who inspect the field, targets, and equipment of competitors and see that all tournament rules are observed.

Target Captain—the archer chosen to pull arrows from the target, normally the first in order of assignment, shall be the Target Captain and shall rule all questions on his target, subject to appeal to the Field Officials.

End—a specified number of arrows to be shot before going to the target to score. (U.S. Outdoor Round—6 arrows, International Competition—3 arrows, Indoor Competition—5 arrows, Field Archery—4 arrows.)

Round—a designated number of arrows to be shot at a specified size target face at one or more required distances. (Examples: American Round, 900 Round, PAA Round, FITA or International Round.)

Ten ring face—a target face of any standard size on which each of the five colors is divided in half. The scoring in each ring in descending order from the center is 10, 9, 8, etc. (Used for 900 Round and FITA Round.)

Time Limit—a maximum of 2½ minutes allowed to shoot 3 arrows.

Star Tournaments—10 tournaments in each member country of FITA are designated as Star Tournaments. These tournaments and the World Championships are the only ones recognized where world records may be set.

The main difference between national and international competition lies in the fact that as the archer shoots shorter distances in international competition the target face is smaller. Instead of the standard 48" face which is used in American competition and the long distances of the FITA, an 80 cm. face (31.5") is used for 50 and 30 meters. This makes the shorter distances more competitive. Also, all scoring internationally is done on a 10-ring face, whereas only the 900 Round uses the 10-ring face in our country.

Bow inspection is required for FITA rounds to ensure that all equipment rules are being followed—peep sights, artificial releases, prisms, and levels are not permitted. The serving on the string may not extend farther than the tip of the nose, and one attachment not to exceed 1 centimeter in any direction is allowed as a lip or nose mark.

In national competition rebounds are counted (5 points beyond 60 yds., 7 points 60 yds. and under) if witnessed,

but internationally they count only if the unmarked hole is found. (As arrows are drawn from the target, each hole is circled with a crayon or covered with scotch tape; thus any hole not so marked would indicate where the rebounded arrow hit the target and it would be scored its actual value.) Scoring differs, also. NAA rules state that arrow values should be called as the arrow is drawn from the target, but FITA states that all arrows must be called and recorded before any are drawn from the target.

Only three archers are assigned to a target in international competition and each is assigned one of the letters A-B-C and they rotate shooting order each end. This may be done in NAA competition but it is not a requirement.

International rules must be used whenever an FITA round is scored; thus in the NAA Championship Tournament these rules apply when the FITA is shot. NAA rules apply for the 900 and American rounds. International (FITA) rules apply at all World Championship events as they will in the 1972 Olympics.

Aiming—note string alignment with sight window

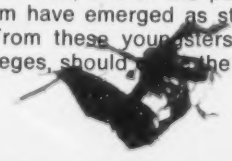
Adjustment of bow to correct hand position

Aiming at full draw position

Solid anchor under jaw

In order that the top archers in the United States be eligible for World and Olympic competition, it is important for all coaches to see that the Amateur Rules for Archers, available from the NAA executive secretary, be observed by their students. Equally important is competition in the NAA sanctioned tournaments. The official magazine of the NAA, *Archery World,* publishes a list of sanctioned tournaments several times a year. This list includes state and regional tournaments, the U.S. collegiate and interscholastic tournaments, and the ten star FITA tournament, one of which is the national championship. To qualify for either the World Championships or the Olympics, an archer must have placed first, second, or third in the qualifying tournament for that event.

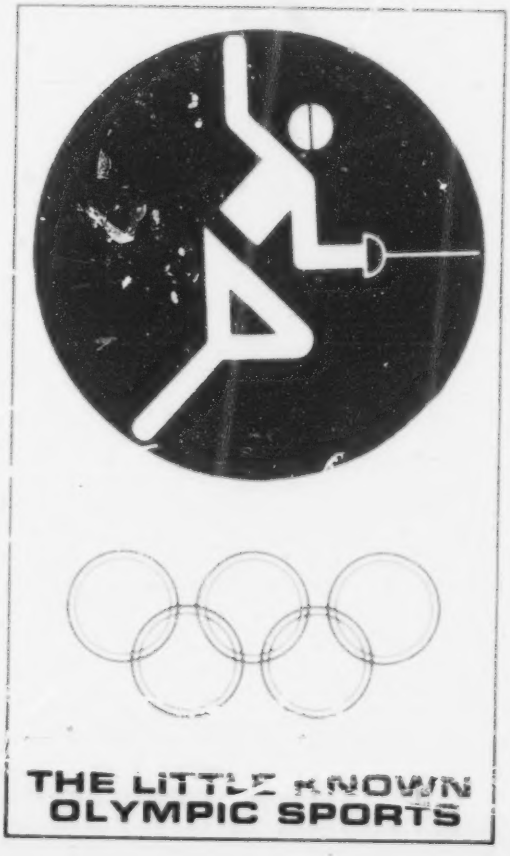
A Junior Olympic Development Program in archery has been under way for the past five years under the auspices of the NAA. More than 10,000 young people have participated in the program. These JOAD groups have adult sponsors, either clubs, schools, or individuals, whose responsibility is to organize and instruct and to supervise tournament competition. The highlight of the year for them is the Indoor Tournament at Cobo Hall in Detroit, Michigan, preceding the Open Tournament. Competition among these young people is keen, and in the past two years more and more of them have emerged as state or intercollegiate champions. From these youngsters, from the high schools and the colleges, should come the future archery Olympians. □



HUGO CASTELLO, coach of the New York University fencing team, has coached a record eight NCAA winners and 11 Intercollegiate Fencing Association champions. Since 1937 NYU has won 136 of 152 matches and has enjoyed six undefeated seasons. Of his coaching philosophy he says, "The trick is to get the fencers to think for themselves. If you do that, you have a winning team. You have to keep the other man on his heels. If you wait around to see what the other guy does, you're going to get hit." Castello has served as co-coach of the United States Pan American Games team, president of the National Fencing Coaches Association, chairman of the United States Olympic Fencing Development Committee, member of the Olympic Committee and the NCAA Rules Committee, and coach of the United States Junior and Senior World Championship teams.

Fencing

"Fencing has always been more than two masked people crossing swords with each other; the fencer's triumphs are personal, and his defeats are his own."



To people who love it, fencing always has been more than two masked people crossing swords with each other. Fencing is a small world complete in itself which frequently helps foster personal ties and friendships that last for a lifetime.

Unlike team sports, there is no one in fencing to depend upon but yourself. When you triumph, you know it's your personal triumph, but when you experience defeat or failure, there is no teammate to criticize; the blame is yours.

Fencing has the special advantage of being a sport for all ages, all heights, all weights, and both sexes. But even though thousands of people fence in the United States, fencing has not become a major spectator sport, possibly because of lack of publicity. While many people do fence, there is hardly ever a fencing story on the sports pages of this country's newspapers. But things are improving. High schools, community colleges, junior colleges, and four-year collegiate institutions have begun fencing programs; and that should help a great deal.

It has been estimated by historians that swords have been in existence for about 5,000 years and that spears were originally used in hand-to-hand fighting as well as for throwing. Kendo, a form of Japanese fencing in which competitors wield a two-handed bamboo stick, is believed to be 4,000 years old.

Like boxing, wrestling, archery, and javelin throwing, modern fencing with European weapons became a sport only after it stopped being a form of deadly combat. The sword was of vital military importance during the 16th, 17th, and 18th centuries; but during the first half of the 19th century it also became popular as a sport in Europe.

Originally, there were two types of weapons that could be used in a duel, a rapier and a saber. The rapier had a large "basket" guard and a rigid, triangular blade and was generally for thrusting purposes. It was the side weapon usually carried by officers and gentlemen. The saber had a heavy, curved guard, and a wide (1 to 2 inches), double-edged straight or curved blade. It could be used for both cuts and thrusts. This was the weapon favored by cavalrymen in the service.

The difficulty with these two early dueling weapons, however, was that a beginner could be hurt seriously just trying to learn the use of either one, for there were no teaching aids. Any mistake could be one's last, even if it occurred in practice. At that time, a short dress sword was often carried by gentlemen simply for decorative or ceremonial purposes. It had a flexible, rectangular blade with a blunt point and a small guard, often in the shape of a figure eight or a circle. This sword suggested to some fencing master that if the tip were further blunted fencing weapons would be easier than the cumbersome rapier for beginners to use in lessons. Heavier, padded clothing was used to allow touches to actually arrive on the body, an impossibility when teaching with the rapier. Finally, someone developed a wire-mesh mask to protect the head, which allowed students to concentrate completely on their lesson or bout without fear of injury. Foil fencing was then on its way to becoming a sport rather than just preparation for the duel.

The saber was the next weapon to undergo the transformation from an object of war to a tool of sport. Italians started fencing with a dulled saber in the 1850s, but their sabers still had the wide blades that were a carryover from cavalry days. It was the Hungarians who took the heavy Italian saber and cut its weight by reducing its blade width 75%. At the same time the saber became highly flexible and resembled the weapon we use today.

Epée, the modern counterpart of the dueling sword or rapier, was not created until the 1890s and met considerable criticism and objection from fencing masters of the time because of the recklessness with which it was fenced. In spite of this lack of encouragement in the beginning, épée competitions now draw larger entry fields than any other fencing event in the Olympics and the World Championships.

By 1896, when Baron Pierre de Coubertin revived the Olympic Games, it was a foregone conclusion that fencing would be one of the major events. Contrary to American beliefs, Europeans considered the fencing events at Athens in 1896 just as crucial as the track and field events, where American interest was centered. Fencing has continued as a feature of the Olympics; in fact, it is one of only six sports that has been conducted in every Olympiad since 1896.

At the first Olympic Games, only two fencing events were decided: individual foil and individual saber. In 1900 at Paris, an individual épée event was added. Team events in all weapons were introduced by 1920 and a women's individual in foil was conducted for the first time in 1924. In 1936 electrical judging apparatus was employed for the épée events at the Berlin Olympiad. The foil was first electrified at the 1955 World Championships at Rome. The last event to be added to the Olympic fencing program was a women's team contest in 1960.

The United States has had little success in the fencing events of the Olympic Games since World War II. Barely a handful of Americans have reached the final round in individual events and only one has earned a medal—Albert Axelrod's bronze medal in foil in the 1960 Games at Rome.

Perhaps no nation fields a stronger fencing team than Russia, which has virtually monopolized World Championship and Olympic competition for the last decade. At the World Championships in Havana in 1969 and again in Ankara in 1970, Russia captured five gold medals in eight events and finished a close second in the other three events.

America has fared much better in the Pan American Games. In the championships in Cali, Colombia, in August 1971, the United States won five gold, two silver, and two bronze medals. Even there, however, the United States dominance is not secure, because Cuba and a number of other countries have begun to make great strides in sports, including fencing.

Differences between the three fencing weapons—foil, saber, and épée—dictate the major distinctions between kinds of fencing done with each weapon.

Historically, the foil is a practice weapon with rules for its use formulated to develop accuracy and a careful alternation of attack and defense. The target is limited, as is the scope of play. The most significant limitation on the fencer is the rule of "right of way," intended to establish a proper sequence of play until a legitimate touch is scored. Double touches are thus discouraged and can occur only as the result of someone's error; in this case, only the fencer who has properly carried out the sequence of play scores. If both participants are wrong, neither scores.

The foil is exclusively a thrusting weapon; hence all offensive actions are made with its point against a target limited to the trunk of the body, excluding head, arms,

Fencing Vocabulary

Balestra—A one-count jump advance, usually made at the beginning of a two-count attack

Barrage—A fence-off of a tie in a qualifying round of a tournament

Bind—A blade action which carries the opponent's weapon from a high to a low line, or vice versa

Compound attack—A progressive attacking action made up of one or more feints

Fleche—A running attack usually made from outside the ordinary lunging distance

Glide—An offensive action against the opponent's blade that applies lateral pressure while moving forward

La belle—A convenient term for the final touch in a tie bout; or a bout in such a tie state, such as a 4-4 tie in men's foil

Right of way—In the conventions of foil and saber fencing, a legitimately executed attack must be parried or evaded before the fencer attacked may attack in turn. The attacker has the right of way.

and legs. Touches on this target are valid and are scored against the fencer touched; touches not on target are invalid, sometimes called off-target touches or fouls. Invalid touches carry no penalty, but they stop the sequence of play.

The foil blade is flexible and has a rectangular cross-section tapering to the flattened point. The length of the blade (figures from the tip to the front surface of the guard) must be less than 900 mm. (35.433"). Some fencers prefer a 34" length, which is more easily handled in infighting. Today, the foil guard is circular, and the blade passes through its center. Foil guards must have a diameter less than 120 mm. (4.724").

The modern saber is a much lighter version of the weapon that was used by cavalrymen. Touches are scored on the torso from the hipline up, as well as on the head and arms. Touches are made with the point or by light cutting motions made with any part of the entire front edge of the weapon or with the forward third of the back edge. The insistence on the action of the edge is now virtually theoretical, since the light, narrow modern blade can scarcely be said ever to land flat. Only touches that whip over a parry are now generally disallowed under this theory; such touches are regarded as flat and do not count.

The maximum length permitted in a saber blade is less than that for the foil or épée—not over 880 mm. (34.646"). The cross-section of the blade is usually a T or Y shape. The guard, unlike those of the foil and épée, includes a knuckle guard curving back and joining the handle at the pommel.

The general rules respecting the right of way are the same for saber as for foil. However, the cutting action and more extended target in saber require the fencers to maintain a long-range distance and, correspondingly, to put a greater emphasis on fast footwork and running attacks. The vulnerability of the arm, especially to stop cuts, makes distance and timing critical, while the prevalence of compound attacks opens the door to counter-attacks.

The dueling sword or épée is the modern fencing weapon that, in physical form at least, is the closest to what would be used in a real duel. In accordance with its nature, there are no conventional limitations on the action or manner of play. Touches are scored with the point only, the épée being a thrusting weapon; but there is no restriction on the target—any part of the opponent's body, from the top of the head to the sole of the foot, is valid. Whoever lands first scores. Double touches are scored against both fencers.

The épée blade, considerably heavier and stiffer than a foil blade, is triangular in cross-section with a groove in the broadest side that is mounted uppermost. The maximum permitted length of the blade including the electrical point is the same as for foil. The two wires for the electrical point are glued into the groove in the top of the blade. The épée guard is a deeper cup than that used for foil. Its diameter must be less than 135 mm. (5.415"), and it is usually offset slightly to afford extra protection to the vulnerable back of the hand.

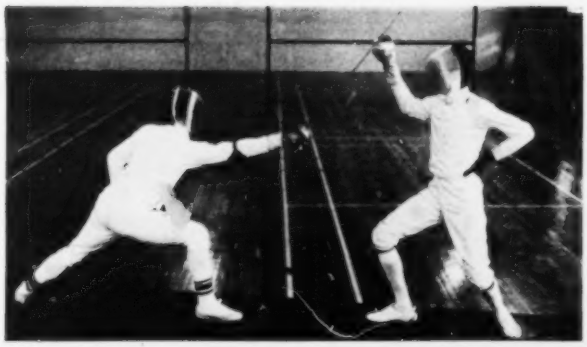
The nature of the target and the exposed arm make for long-range action. Cautious épée fencers play a more reserved game than foil fencers and make smaller motions, since there is more margin for error. Any mistake, even one-fourth inch or less, may prove costly. The possibility of double touches must always be kept in mind; hence, actions taking the blade (controlling the opponent's blade) are often favored. The stop thrust, especially to the wrist and forearm, is a common technique.

The scoring system in fencing is simple. In the men's categories bouts are fought for five touches, while four touches wins in ladies competitions. The duration of a regulation bout is six minutes for men and five minutes for women.

An electrical system determines who makes the first touch in foil and épée, while in saber the scoring is done visually by officials. The electrical system has revolutionized the sport. The touch is made, the circuit complete, and the light goes on—an impartial system, quite unlike officials in former days. Before electrical scoring a young good fencer had a hard time convincing the officials that he was capable of beating an experienced opponent. Now, thanks to this equipment, an unknown can win a national championship.

The sport of fencing is governed by the Federation Internationale d'Escrimé (FIE) or International Fencing Federation. The American member of this group is the Amateur Fencers League of America (AFLA). The president of AFLA is Alan M. Ruben, 11505 Lake Shore Boulevard, Bratenahl, Ohio.

The AFLA was founded in New York City in 1891 and presently has a membership of 6,000. The AFLA conducts yearly national championships and helps select and train



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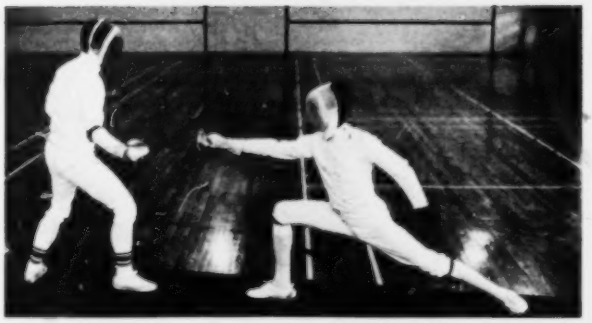

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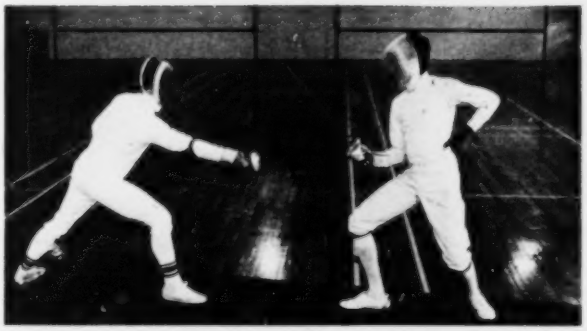

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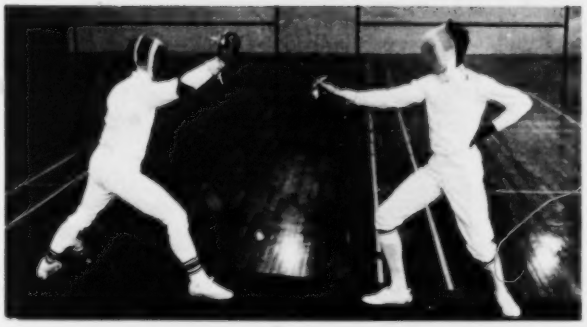

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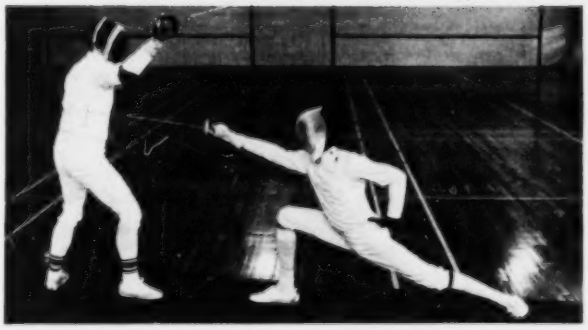

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The pictures at left are of a saber bout between Jeff Tishman (left) and Ed Ballinger, members of the 1971 New York University NCAA championship fencing team. (1) Tishman lunges, making a direct head cut at Ballinger. Ballinger defends himself by parrying in the fifth position. (2) Ballinger makes his counterattack, or riposte, by cutting at Tishman's flank. Tishman defends by parrying in the third position. (3) Tishman makes his counterattack, or counter riposte, by cutting at Ballinger's chest. Ballinger defends by parrying in the fourth position. (4) Ballinger begins his final counterattack by feinting a cut quickly at Tishman's head as Tishman is recovering from his lunge. Tishman is forced to go into a fifth parry to try to defend himself. (5) Too late! Tishman realizes that Ballinger is only feinting, as Ballinger drops his hand for a final flank cut that lands. Touché.

the United States Olympic fencing team. The approximately 50 geographic divisions conduct competitions on the local level. In addition, nonadministrative units called sections conduct annual regional championships among the divisions within a section. The 50 divisions are presently grouped into seven sections.

The AFLA maintains close relations with the National Collegiate Athletic Association, the Intercollegiate Fencing Association, and the Intercollegiate Women's Fencing Association, which are responsible for holding various collegiate fencing events.

The rules covering amateur fencing in the United States are enacted, amended, and repealed solely by the Board of Directors of the AFLA. As a matter of policy, the AFLA generally follows the rules enacted by the FIE. The rules established by the FIE apply equally to the Olympic Championships, the Junior and Senior World Championships, and the World University Games. The United States National Championships are held under the same set of rules.

American collegiate fencing, however, incorporates slightly different rules for its competitions. For instance, men's collegiate fencing has a four-minute time limit for bouts, rather than the six minutes used for international men's bouts. Another difference is the scoring system used in épée fencing. In international fencing, a double loss occurs if the score is tied and time runs out. But in American collegiate events, the rules for épée in this instance are the same as for foil and saber: a bout can go on indefinitely, but a winner must be determined. This rule was introduced to avoid a tie in the conventional 27-bout college dual meet.

Anyone can become a fencer. Olympic and national champions range from the short and the skinny to the tall and the husky. Size and weight have no importance in determining how well a person will do in fencing. Speed, timing, coordination, concentration, and a good sense of distance are far more important qualities. There are no weight classes as in boxing, judo, and wrestling, and fencing is not a tall man's game like basketball.

Furthermore, a person may compete quite successfully as a fencer despite a physical handicap that could seriously hamper or prevent his participation in other sports. One American foilsman, for example, was a national champion once and a runner-up on two other occasions, even though he had only one arm. Several top United States fencers have been nationally ranked despite having vision in only one eye. Hearing, which is critical in many sports, is not vital in fencing. One Olympic Woman's Champion from Eastern Europe and a former United States National Champion are both completely deaf. □

NOBUO HAYASHI is a physical education instructor at Tulane University, where he coaches judo, wrestling, and rugby. He holds a fourth degree black belt in judo, the highest competitive degree in this field, and serves as an examiner of rank promotion for the Dixie Judo Black Belt Association. A native of Japan, he was active in cultural and sports activities in school; he was president of the English Speaking Society, won first place in the West Japan English Oratorical Contest in 1954, led his team to the semi-final game for all-Japan rugby championships, was state middleweight boxing champion in 1951, and was a national collegiate judo champion. He served as an official interpreter at the Tokyo Olympics in 1964. After graduating from college, he established the English language Risseikan Gakuin Institute, where he taught English, coached judo, and later became president of the college. He came to the United States in 1966, taught judo at Anderson College, and was elected vice president of the Indiana Judo Association. While coaching judo at Central Michigan University he served as a technical adviser for the Michigan Collegiate Judo Association.

Judo

"Judo is a way of life, a system of training mind and body to attain maximum efficiency with minimum effort, for the purpose of everyday living."

THE LITTLE KNOWN OLYMPIC SPORTS

Judo is a sport which involves throwing an opponent's body in the air, holding the body down, arm locking, and choking. It is also a way of life, a system of training mind and body most efficiently for the purpose of everyday living. It is the best way to attain maximum efficiency with minimum effort. Judo is an exciting, thrilling sport which can be enjoyed by male and female, young and old.

Judo is an exercise, a sport, a system of self-defense, a physical, moral, and ethical code followed by its advocates. Health, utility, and spiritual, physical, and mental training are its objectives. It develops poise and coordination, and it substitutes skill for brute strength. It is a system of sound psychology based on the assumption that the whole body thinks. Mental and physical energies are trained to be integrated and conserved; such energies are then expended wisely to achieve the maximum effect with a minimum of effort. Judo embraces more than just the physical arts of throwing and submission; it incorporates many of the scientific principles of philosophy, psychology, anatomy, and physics. These are not mere concepts of haphazard teachings, but principles recognizing a lifetime of study through written records.

Kodokan Judo, which is practiced throughout the world today, was developed in 1882 but has its roots in the long history of Japanese martial arts. During the civil war in Japan, warriors known popularly as samurai were masters of the feudal system comprised of four classes—samurai, agriculturists, artisans, and merchants. Concepts valued by the samurai reflected the ideal of humanity in the feudal age—courage, bravery, justice, loyalty, honor, politeness, wisdom of life and death and man's role in society, humility, purity, and respect for others. The philosophy of Zen Buddhism brought to the samurai the concept of dying without fear.

On the battlefield, only the samurai engaged in the martial arts, which were divided into such categories as swordsmanship, spear technique, grappling with armor as in jousting, and combat with minimum use of weapons (jujitsu). After the civil war of Onin in 1467-77, the use of foot soldiers increased the importance of the martial arts. Changes in weaponry—increased use of guns and swords and lighter weapons and armor—made it necessary for warriors to study new methods of fighting with bare hands or small swords to enable them to retaliate more quickly than they could in heavy armor on horseback. Modifications in the Code of Samurai also facilitated the acceptance of quick-reaction weapons; the code had previously prohibited sneak attacks, but now warriors had to be on the alert for sudden attacks and able to react quickly.

Many warriors developed their own distinctive methods of fighting; experts in the field organized their skills and opened schools which became popular with warriors. Many schools in jujitsu, the combative art using bare hands, appeared in the 17th century.

In the late 19th century, 18-year-old Jigoro Kano began the study of jujitsu under several of the masters. He was a physically weak person who was often beaten. He studied jujitsu because he respected the strength of his masters, but he found jujitsu to be lacking in mental knowledge. In 1882 he made a thorough study of the ancient forms of self-defense and integrated the best of these techniques into modern judo. This new system, which could be adopted as a physical education program for schools, was to consist of mental culture combined with physical skill. Kano noted that the one basic principle of judo was the efficient utilization of maximum physical and mental energies. He later added the principle of "mutual welfare and benefit," calling for all people to unite and help each other in order to develop and continue a social life of peace.

Dr. Kano developed the rank system to identify exponents of judo. All martial arts such as sword fighting

"True judo is an art; Skill is the determining factor of this art, not size, weight, and power."

and archery have adopted this rank system. It is divided into two categories: non-black belt holders and black belt holders. For non-black belt holders, the belt colors go from white (sixth and fifth class) to green (fourth) to brown (third, second, and first). After obtaining the first class brown belt, with further preparation the player may qualify for the first degree black belt. The belt is black for the first to fifth degree black belt; red and white striped for sixth, seventh, and eighth; and red for ninth and tenth. There have been only ten holders of the tenth degree black belt; the highest degree now held is ninth.

Dr. Kano, known as the father of physical education in modern Japan, emphasized the importance of physical education during the early years of new Japan. He was the first Japanese member of the International Olympic Committee, and served in that position for 30 years. His eight trips to Europe and America helped promote judo all over the world.

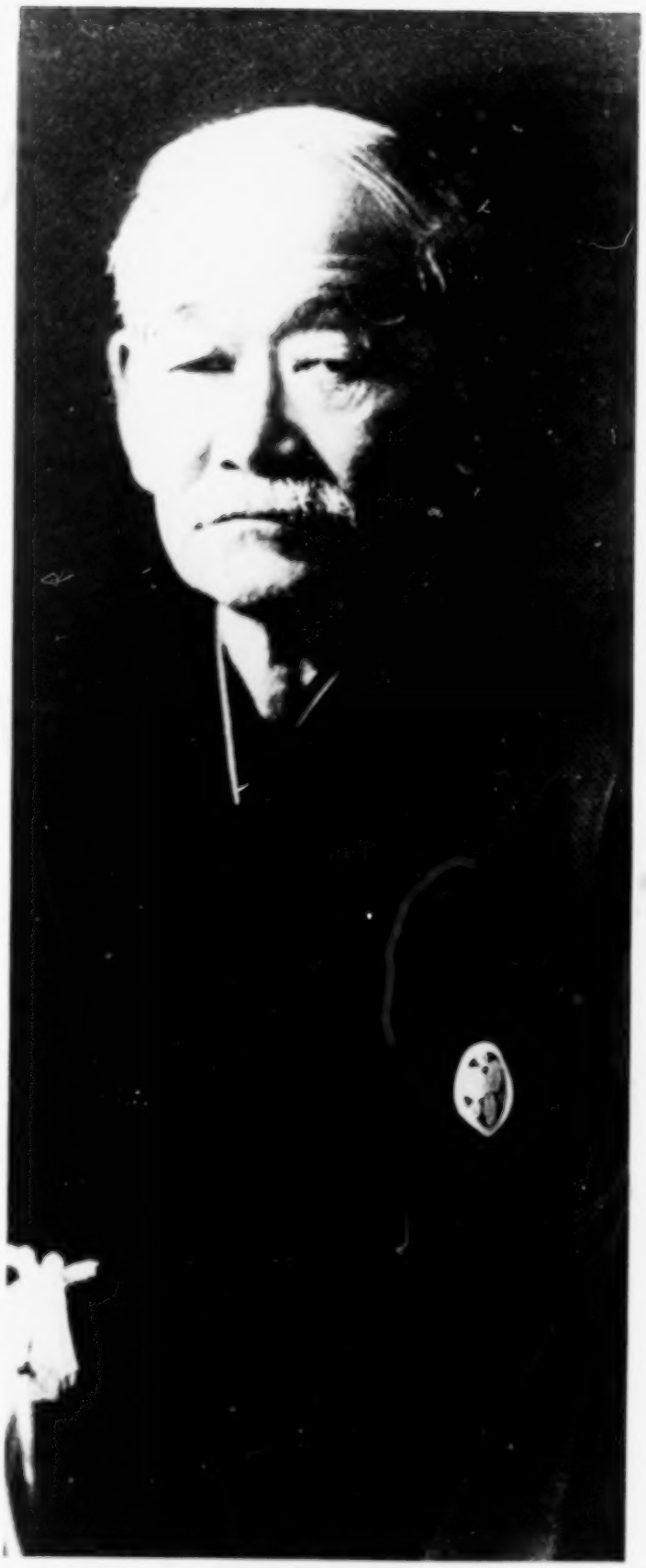
Judo techniques fall into two categories: throwing techniques and grappling techniques. There are about 40 different kinds of throws in judo, classified as hand, loin, and foot techniques; sacrifice throws; and side sacrifice throws. The object of the throwing technique is to throw the opponent on his back with considerable force. The three main types of grappling are choking, arm-lock, and holding techniques. The aim in grappling is to hold the opponent and control him on the mat, as in wrestling.

Injury rate in judo is reported to be one of the lowest among all sports. The art of ukemi (break-fall) must be learned by the student of judo before he learns any throwing technique. Ukemi is a method used to fall down or be thrown safely and painlessly. By hitting a hand or both hands a moment before his body hits the mat, a contestant absorbs the shock when he lands on the floor on his back.

To begin the judo match, two contestants stand facing each other and bow. After the referee tells them to start, they can grab, throw, pin, choke, and lock or twist arms.

Generally a judo match is won by scoring a full point or two half points, or by decision. A full point is awarded in the following cases: (1) when the contestant throws his opponent largely on his back with considerable force, (2) when a contestant skillfully lifts his opponent who is lying with his back on the mat up to about the height of his own shoulders, (3) when one contestant holds the other under full control on the mat for 30 seconds, (4) where the effect of a technique of strangle or lock is sufficiently apparent, or (5) when one contestant says "Maitta" (I give up) or taps his opponent's body or the mat two or three times. A half point is awarded when the contestant who applies a throwing technique is not completely successful and does not merit a full point, or when he holds his opponent under full control on the mat for 25 seconds. When neither contestant scores a full point or two half points, the judges may give a decision of superiority win to the one who displays superior skill during the regulation match period (which varies in length from 3 minutes for young competitors to 20 minutes for major tournaments) or during the overtime period following a draw contest.

International judo matches are scored by single elimination, double elimination, or pool system. Under AAU rules, judo in the United States may be scored by a penalty point system. Five penalty points eliminates a man. Results of a bout add penalty points as follows: a contestant who wins a bout by scoring a full point or two half points receives no penalty points; the winner of a bout by decision receives one penalty point; the loser of a match by decision receives two penalty points; and the loser of a match by points receives four penalty points.



Jigoro Kano, originator of modern judo

A judo contest is generally conducted by one referee and two judges. In some circumstances it may be permissible to have one referee and one judge or just one referee. The referee generally stays within the contest area and has the sole responsibility for conducting the contest and administering the judgment. The judges assist the referee and are positioned opposite each other at corners outside the contest area.

Judo is practiced in the dojo (gym), which the Japanese regard as almost a holy place. This is a place of serious study, for both physical and spiritual training. Judo players bow their heads when entering and leaving the dojo to show respect. The dojo in Japan has straw mats called tatami measuring 3' x 6'. Most judo clubs and schools in America use wrestling mats or gymnastics mats. Wrestling mats are not recommended, because toes may be caught in the mats and result in injuries to toes and ankles. Judo can be taught anywhere—on grass, on mats, on a canvas cover or soft materials.

The judo costume is called judo gi. A gi is made of heavy cotton and is strong enough to last for a long time without being torn. The belt worn at the waistline on top of the gi varies in color according to the player's rank.

The European Judo Federation was organized in 1948. In July 1951, the International Judo Federation (IJF) was established, and Risei Kano, son of the founder of judo, became president. All international judo contests are played according to IJF rules. The first World Judo Championship was held in Tokyo in 1957. The World Judo Championship has been held in many different countries since then.

Until the World Judo Championship, there were no weight classes in the sport of judo, but European countries strongly requested a weight class system. True judo is an art, and skill is the determining factor of this art, not size, weight, and power. However, Europeans view judo strictly as a sport, similar to Western wrestling. A weight classification system has some merit when judo is considered as a sport, since such a system gives people a fair chance to win the contest in their own weight division. The IJF divisions are under 139 lbs., under 154 lbs., under 176 lbs., under 205 lbs., over 205 lbs., and open (any weight). The champion of the open weight division is the World Grand Champion.

There are no weight classes for the all-Japan Judo Championships. Because judo is an art not dependent upon size, a smaller man can throw a big man by using his opponent's power and fast movement. Two of the best small Japanese champions were Inokumuma (5'8", 174 lbs.) and Okano (5'7", 165 lbs.). In order to be champions they had to compete against 250-pounders whose training equaled theirs.

Judo was introduced to the United States in 1902 when Yoshiaki Yamashita, a student of Jigoro Kano, gave a demonstration for President Theodore Roosevelt, who became an enthusiastic student of Kodokan.

Jigoro Kano, as honorary president of the Japanese Amateur Athletic Federation, attended the 1932 Olympic Games in Los Angeles. Formal organization of judo in the United States resulted from that visit. At that time four yudanshakais (black belt associations) were formed—Southern California, Northern California, Seattle, and Hawaii. The black belt associations controlled all judo rank in the United States and had the responsibility for technical matters.

At first judo was a subcommittee of the National AAU Wrestling Committee. In 1953, because of the national and international growth of judo, a National Judo Committee, independent of wrestling, was formed under the AAU.

Also in 1953 the five black belt associations (Central California had been added to the original four) formed the Amateur Judo Association, later called the Judo Black Belt Federation of the United States, and now known as the United States Judo Federation (USJF). Today USJF is composed of 27 black belt associations, which represent every state in the union.

An agreement between AAU and USJF has enabled the two organizations to work harmoniously to develop judo throughout the United States. AAU is recognized as the sole governing body for all amateur judo contests and exhibitions conducted in the United States. AAU is also the United States representative to the International Judo Federation. As the AAU Judo Committee coordinates activities at the international level, all international exchanges involving U.S. judo amateurs must be cleared and approved by this committee. The USJF is the sole

Judo is a sport requiring strict discipline. At the beginning and end of the class, students kneel in front of the teacher and bow their heads to show respect and humility.

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At left: (1) Sweeping loin throw.
(2) Major outside reaping throw (foot technique).
(3) Choking technique.
(4) Arm-lock technique.
(5) Cross-chest holding.

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organization within the United States qualified to make belt awards for proficiency in and understanding of judo. USJF also provides technical direction, certified referees, rule changes, study committees, and most of the financial assistance to sponsor tournaments and help send our teams abroad.

The new United States Judo Association, established by Philip S. Porter, is currently trying to gain AAU recognition. It is said that 29% of the judo population in the United States belongs to this organization.

The National Collegiate Judo Association was established in 1962. Under NCJA are Western, Midwestern, and Southeastern Collegiate Judo Associations.

The twentieth AAU National Senior Men's Championship and sixth National Women's Kata Championship were held at Temple University in 1972. This is the biggest judo tournament in the United States. Until 1971, most winners were of Japanese nationality. Now the AAU has ruled that, except in the unlimited weight division, contestants must be U.S. citizens.

The first National Collegiate Judo Championship was held in 1962. The number as well as quality of contestants is increasing year by year; about 60 schools participated in the 1972 championship in St. Joseph, Missouri. NCJA has seven weight divisions, including open. The champions of each weight division went to London in July to compete for the World University Championship.

The ninth High School Judo Championship was held in March 1972 in Raytown, Missouri. That same month the all-Japan high school judo team competed against the all-USA high school judo team in an exciting match at San Jose State College. Five such meets between the two countries have been held since 1967; for the first time, the United States almost won in 1972. These fine high school judo players offer great hope for U.S. judo in future Olympic Games.

Judo has grown rapidly among youth in this country. Each black belt association sends a representative to the annual AAU Junior National Championship, for ages 9 to 16. Each age class is divided into light and heavy weight.

Judo enthusiasts long sought to have judo competitions included in the Olympic Games, although Jigoro Kano did not favor such competitions. He felt that judo included something more than sport, but said that he might accept the wishes of a vast majority of people if they were eager for judo to be included in the Olympics. When judo was included in the Olympics for the first time, in Tokyo in 1964, 37 nations participated. Judo was not adopted for the 1968 Mexico Olympics, but it has now been approved as a permanent Olympic game.

At the 1972 Olympics in Munich, each country participating in judo sent six players—one for each weight division. The United States team was selected at the 1972 AAU Senior National Judo Championship. □

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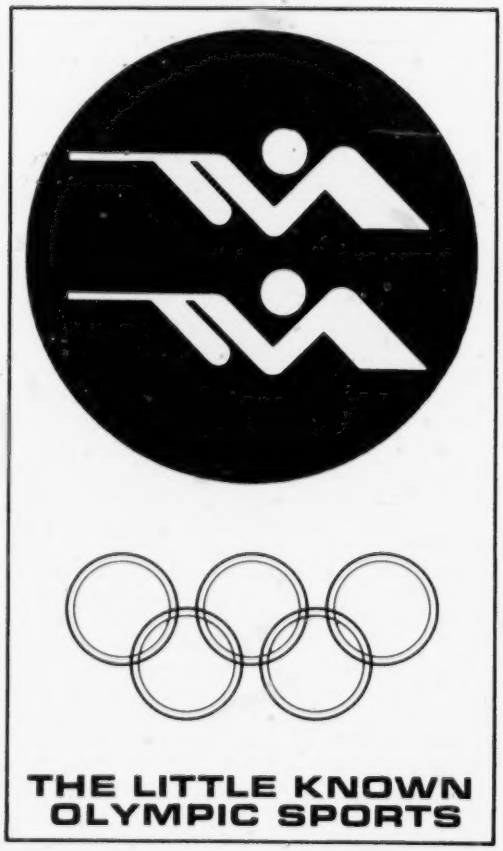
Shooting

"Target shooting traces its origin to hunting and warfare—two groups of skills upon which men have based their survival since ancient times."



Obscured by time and confused by legends, the origin of target shooting is a mystery to the historians of shooting events. We know that when firearms were invented target shooting was already an established sport among archers and slingers. Even the origin of the bull's-eye target is obscure, but it seems to have been in general use by archers and gunners in the seventeenth century. One of the earliest records of target shooting is by Homer, who describes shooting at stuffed birds, or popinjays.

Target shooting clearly traces its origin to hunting and warfare—two groups of skills upon which men have based their survival since ancient times. Leaders of individual societies fostered the development of skill in the use of various arms—stones, spears, archery, and firearms. Those who excelled were sought out and honored. Late in the fourteenth century, King Peter IV of Aragon encouraged the practice of target shooting, and during this period shooting brotherhoods were established. These early brotherhoods were exclusive groups of archers and slingers. Firearms were in practical use for many years before they gained the prestige and sporting use of the more ancient arms.

Fifteenth-century Spanish records tell of sporting competitions between men using hand cannons, and even of state subsidized regional shooting matches. The French seem to have followed the Spanish example, and shooting brotherhoods in France came into existence shortly thereafter. In 1725 an elaborate shooting match full of pomp and ceremony was part of the celebration of the birth of a son to Louis XV.

The Swiss had participated in organized shooting matches since the fifteenth century, and their National Shooting Society, founded in 1824, was among the first of the modern-day associations. The National Rifle Association of Great Britain, sponsored by Prince Albert and the Duke of Cambridge, came into existence in 1857. The Belgians created their national shooting organization in 1858. Three years later Sweden and Norway established their national societies, followed by Italy in 1863.

Shooting competition has been part of the American heritage since settlements were first established in the United States. Scarcely a village failed to include a shooting competition whenever a festival was held. Farmers, woodsmen, hunters, and villagers from miles around competed for top honors in musketry, and the winners received wide renown.

Organization of target shooting as a competitive sport in the United States did not take place until the formation of the National Rifle Association of America (NRA) in 1871 by a group of National Guard officers. The Association brought order to a hodge-podge of competitions. Courses of fire were established, targets designated, rules established for governing the use of firearms in competition, records kept; and for the first time in the history of the nation manuals on rifle practice were published. Targets and marking equipment used originally by the NRA came from England. The NRA arranged for the first championship matches, held at Creedmoor, Long Island in 1871.

The United States trailed in bringing its competitive program under an organization, but it did not take U.S. marksmen long to establish their ability in rifle target shooting. In 1876, the centennial of American Independence, Ireland, Scotland, Australia, and Canada sent rifle teams to fire in a great centennial match in the United States. The American team carried the field as it beat the Scotsmen by 63 points, the Irish by 22, the Australians by 64 and the Canadians by 203. A year later the Americans competed against a squad representing the entire British Isles and won a resounding victory by 92 points. The last of this series of international matches occurred in 1880 at Dolly Mount, Ireland. The Americans won again, this time by the narrow margin of 12 points. The Irish and English declined return matches with the United States for more than 50 years thereafter.

These international matches, in addition to the Annual NRA Matches first held in 1873, stimulated considerable interest in target shooting in the United States. The NRA was bombarded by letters from many states asking how they might enter the NRA program or become associated with it. The influence of the regular and international matches at the national range at Creedmoor had even more widespread significance as the Regular Army began to look with a critical eye at its own training methods and began taking steps to adopt systems developed at Creedmoor.

In 1903 official recognition of the value of competitive marksmanship was given by the U.S. Government when the Congress passed a bill authorizing the establishment of a National Board for the Promotion of Rifle Practice (NBPRP) and the National Rifle and Pistol Matches. Congress granted appropriations to transport teams of marksmen to these national matches from the various branches of the Armed Services and the National Guard organizations of the states. The immediate effect of this law was to approve and lend the support of the federal government to the principles and program of the NRA.

The first National Rifle Match authorized by act of Congress was held at Sea Girt, New Jersey, in September 1903, and has been held annually since, except in time of war. Under provision of the National Defense Act of 1916, the NRA held its own national matches jointly with the NBPRP matches until 1968, when the NRA conducted the National Rifle and Pistol Championships entirely with its own membership.

Thus competitive shooting matches in this country were solidly founded and have continued to grow through the years, with improvements constantly appearing in courses of fire, targets, target guns, ammunition, and individual skill.

As we have seen, international shooting matches proliferated in the late nineteenth century, usually between two friendly nations. The rebirth of the Olympic Games in 1896 at Athens stimulated this form of competition by including a number of shooting contests in the program. In 1897 the first formal international shooting championships were held

Reloading during English match

Running boar

Practicing for full bore match

Rapid fire silhouetted targets

at Lyon, France, and led to the formation in 1907 of L'Union des Federations et Associations Nationals de Tir, the forerunner of today's International Shooting Union (ISU). The 40th World Shooting Championships, hosted by NRA on behalf of the United States in October 1970, resulted from that first match at Lyon.

The international sports governing body for shooting, ISU presently has headquarters in Germany. It is composed of over 100 shooting federations from approximately 100 countries. The ISU is charged with the standardization of rules, courses of fire, targets, firearms, ammunition, and the sponsorship of international shooting matches. The ISU supervises the conduct of shooting events at the Olympic Games, Pan American Games, and several regional or sectional games. In addition, ISU sponsors the World Shooting Championships every four years, midway between the Olympics, as well as frequent World Moving Target Championships.

The events included in today's international shooting matches have evolved principally from various European sources and represent a long effort by the ISU to standardize rules and procedures to permit international competition on equal terms. Frequently the events differ considerably from their current national counterparts, and they certainly are different from their remote origins in various countries of Europe and the New World.

As firearms have become lighter and more accurate, the standards of competition have had to change. There has always been an effort to ensure that the matches are tests of current skills, as demanding and critical as any track or field event. Many of the rifle and pistol matches test accuracy as well as endurance, speed, and physical conditioning. In most such events, performance is abstracted and standardized to remove as many as possible of the variables that would be encountered in field shooting. Other events such as clay target, skeet, or running target events resemble more closely the real life activities from which they are derived.

Beyond standardizing events, the ISU keeps up a constant effort to promote shooting, to attract young and old, male and female to this exciting outdoor sport, and to provide new events that promise keen competition. The winter Olympic biathlon, for example, combines two popular outdoor sports, shooting and skiing, in a dual event that has developed keen international competition. The grueling modern pentathlon includes shooting as one of its five activities.

Five nations participated at the first ISU match in 1897. Now more than 60 nations send teams. In the 1968 Olympic Games, more nations competed in shooting than in any other sport expect track and field. This growing interest in competition between nations is paralleled by rapidly rising enthusiasm for sport shooting within individual countries. This will undoubtedly make for even better international competition in the future, a competition that will add to the friendship and understanding necessary between nations in the complicated modern world.

The shooting sports offer a wide variety of different events which demand different techniques. The free pistol event, for example, calls for firing 60 shots in the standing position. Time limit is 2½ hours, or about 2½ minutes per shot. This is a slow, deliberate match, requiring great concentration and great self-control on the part of the shooter. In contrast, the rapid fire pistol match is fired in 5-shot series against time. In the last stage of this match, the targets are exposed for only four seconds. In this time, the shooter must raise his arm, fire a shot at one target, move over to the next and fire a shot, and so on. Five shots in less than four seconds!

The free rifle event calls for 120 shots at a stationary target, fired from a rifle which may weigh nearly 18 pounds.

Forty shots are fired from each position—prone, standing, and kneeling. Total firing time is over five hours. This is a long, tough precision match, calling for excellent physical condition, great shooting ability, and self-control. But in the clay pigeon match the shooter must estimate the horizontal and vertical angles at which the target is flying, estimate the correct lead, move his gun into position, and fire the shot while the target is trying to get away from him at over 100 miles an hour.

In international competition there are separate events open only to women. Women may compete in the open events on the same basis as men, but where there is a matching ladies event a woman is eligible only for the ladies match. In international competition there is a limitation on team size, with special allowance for women shooters. At present there is no special provision for women shooters in the Olympic games. There is no restriction, however, and they can compete on the same basis as men. Mexico had a woman shooter on its team in 1968. The United States has not had any women on its Olympic shooting teams, but only because the men out-scored the women. The U.S. has had women on its international teams, however. A proposal is being made to the International Olympic Committee to provide some special shooting events open to women only. Basically, however, there is nothing inherent in the shooting game which would prevent a woman from competing in open competition on the same basis as men.

Shooting is not restricted to any particular age group. Alfred Lane won 3 gold medals in Olympic pistol competition before he was 21. Art Cook, a slight 5½ foot, 120 pounder, won a gold medal in the rifle when he was 20. Walter Winans won a gold medal in the running deer match when he was 66. He was again on the U.S. team for the following games in 1912. In trying out for the 1920 team he set new world records, but unfortunately died at the age of 78 before the games were held. Winans, in addition to winning a gold medal in shooting, was unique in also winning an Olympic gold medal for sculpture in the arts competition.

Being on a U.S. shooting team is not necessarily a one-shot affair, either. Many shooters have won more than one medal. Cy Osburn, for example, shot on three Olympic teams and collected seven medals in team events, plus gold and silver in individual matches. Art Jackson and Joe Benner, along with others, shot on three separate Olympic teams, but the record is held by gold-medal pistol shooter Bill McMillan, who was on the teams of '52, '60, '64, and '68.

Nor are the handicapped eliminated from shooting. Karoly Takacs of Hungary had competed in the World Championship class in the late thirties, shooting the pistol as a right-hander. During World War II he lost his right hand. Undaunted, he taught himself to shoot with his left hand, and proceeded to win gold medals in the rapid fire pistol event in 1948 and 1952.

The program for the 1968 Olympic games included seven events, all open to men or women and all individual events. The games in Munich in 1972 will include the same matches plus an additional match, the running boar.

The free rifle match is the oldest and probably the most demanding of all the shooting events. It comprises 40 shots from each position—prone, standing, and kneeling—along with a limited number of sighting shots. Time limits are 1½ hours prone, 2 hours standing, and 1¾ hours kneeling. The target is 300 meters (330 yds.) from the firing line. This is a tough match, long and tiring. It requires good physical conditioning so that the shooter can bring the rifle up more than 40 times in each position and can then hold it steadily enough and long enough to get away the kind of shot he wants.

A closely related match is the smallbore rifle three-position match. This includes the same course of fire and the same positions as the free rifle match, but the range is 50 meters (55 yards) and the rifle is limited to the .22 rim fire. The .22 cartridge has almost no recoil, whereas the free rifle does have a fair amount of kick, so the smallbore rifle match is easier on the shooter in this regard.

The third of the rifle matches is also for .22 caliber rifles and is fired on the same target at 50 meters. This event is the smallbore prone or "English" match. It consists of 60 shots prone, in a time of two hours. The rifle is the same as permitted in the three-position smallbore match. In some cases the first 40 shots of this prone match also count as the prone stage of the smallbore rifle three position match.

A new-old rifle event, the running boar, is now planned as part of the 1972 Games. The running target match was apparently part of the 1900 games, although the record isn't too clear. The running deer was in the games of 1908-1924, and was part of the ISU events for many years, but has been replaced by the running boar. This match is shot at 50 meters (55 yards) with a .22 caliber rifle. The target, shaped like a running boar, runs on a track from one protective bulkhead to another. The match consists of 30 shots in the normal run (5 second exposure) and 30 shots in the fast run (2½ seconds). This requires great coordination and smooth gun handling to get the rifle to the shoulder, pick out the aiming mark, and swing along with the target while squeezing

International skeet

Clay pigeon match

Shooting was an important part of the first Olympics in 1896 and has been included in all Games since except those of 1904 in St. Louis and 1928 in Amsterdam. The scores which follow—from the Olympics of 1948-68—are for events which will be shot in the 1972 Games in Munich. During this period the rules may have changed, so it is not always possible to make a direct comparison of scores.

Free Rifle—3 Position, 300 Meters

1948	Emil Grunig, Switzerland	1120
1952	Anatoli E. Bogdanov, USSR	1123
1956	Vassili Borissov, USSR	1138
1960	Huber Hammerer, Austria	1129
1964	Gary L. Anderson, United States	1153
1968	Gary L. Anderson, United States	1157

Small Bore Rifle—Prone, 50 Meters

1948	Arthur E. Cook, United States	599 x 600
1952	Josif Sarbu, Rumania	400 x 400
1956	Gerald Ouellette, Canada	600 x 600
1960	Peter Kohnke, Germany	590 x 600
1964	Laszlo Hammerl, Hungary	597
1968	Jan Kurka, Czechoslovakia	598

Small Bore Rifle—3 Position, 50 Meters

1952	Erling Kongshaug, Norway	1164 x 1200
1956	Anatoli Bogdanov, USSR	1172
1960	Viktor Shamburkim, USSR	1149
1964	Lones W. Wigger, United States	1164
1968	Bernd Klingner, West Germany	1157

Rapid Fire Pistol—5 Targets, 25 Meters

1948	Karoly Takacs, Hungary	580
1952	Karoly Takacs, Hungary	579
1956	Stefan Petrescu, Rumania	587
1960	William McMillan, United States	587
1964	Pentti Linnosvuo, Finland	592
1968	Josef Zapedski, Poland	593

Free Pistol—50 Meters

1948	E. Vasquez Cam, Peru	545
1952	Huelet L. Benner, United States	533
1956	Pentti Linnosvuo, Finland	556
1960	Alexey Gustchin, USSR	560
1964	Vaino Markkanen, Finland	560
1968	Grigory Kosykh, USSR	562

Clay Pigeon Shooting

1952	George Generaux, Canada	192 x 200
1956	Galliano Rossini, Italy	195
1960	Ion Dumitrescu, Rumania	192
1964	Ennio Mattarelli, Italy	198
1968	John Braithwaite, Great Britain	198

Skeet

1968	Eugeny Petrov, USSR	198

the trigger. Despite the brief time interval and the target movement, this is still a game of high precision, since the 10 ring is less than 2 inches in diameter.

The two pistol matches are markedly different in type, target, equipment, and technique. The older, which goes back more than 60 years, is the free pistol. This includes 60 shots fired at a 10-ring target at 50 meters (55 yards), in a time of 2½ hours. This is a match, like the free rifle match, of great precision and a generous time allowance.

The other pistol event, the rapid fire match, is quite different except that it still calls for great precision on the part of the shooter. The pistol is fired at a distance of 25 meters (27 yards) on a set of five silhouette targets. The targets can be turned away (edged) or turned toward the shooter (faced) as a unit and the time period during which the targets are faced toward the shooter can be precisely controlled. The shooter stands with his gun and arm pointed down at a 45-degree angle. When he calls for the targets, they are faced. He brings his pistol up, fires a shot at one silhouette, moves over to the next target and fires a shot at it, and so on until he has fired his five shots or the targets have disappeared. The match is fired in five-shot series, two series each with the targets exposed for eight seconds, two each with the targets faced for six seconds, and two each at a four-second time limit. After everyone has had a chance to complete this course and to develop a good case of jitters, the same course is repeated, usually the next day. The 60-shot match requires much coordination, control, and speed, but not at the expense of accuracy. The object is to hit the 10 ring with every shot. The champion comes close to this goal.

The Olympic Games include two events for the shotgun shooter, clay pigeon and international skeet. Both use the same target, a saucer-shaped "clay bird" made of limestone and pitch. The target is thrown through the air and the shooter tries to hit it with the load of pellets from his shotgun.

On the clay pigeon field there are five shooting stations in a line. Fifteen meters (16½ yards) in front of them is a pit which holds the 15 throwing machines or "traps." A group of three traps is assigned to each shooting station. In general, each trap of the 15 is set at a different horizontal and a different vertical angle. When a shooter calls for a bird from a station, he does not know which one of the three traps it will come from nor what its flight path will be. After shooting from one station, he moves down to the next station, and so on, for a total of 25 birds. The shooter can fire one or two shots at the target; it makes no difference, so long as he breaks it. This event requires a hasty estimate of the situation, calculation of leads, and a smooth swinging of the gun while the lead is being applied and the shot fired.

International skeet uses two trap houses about 40 yards apart. The left hand (high) house mounts the trap about 10 feet off the ground, while the right house (low) holds the trap three feet in the air. There is a shooting station in front of each trap house, plus five others laid out on an approximate semi-circle connecting the houses, and an eighth station midway between the two houses. Each trap throws more or less toward the other house, but the flight line is somewhat outside the line connecting the houses.

Each shooter steps up to the first station and gets a bird thrown from the high house, followed by one from the low house. The other members of the five-man squad follow. The squad then moves on the next station where the process is repeated, and so on around all the stations. The shooters then go to stations 1, 2, 6, and 7 in turn, where each is thrown "doubles"—two birds thrown simultaneously. The shooter is allowed only one shot at each bird. Although the shooter know exactly the flight path of each bird, every shot in the 25-bird series is different and calls for a different amount and direction of lead. In international skeet, the shooter must have the gun off his shoulder, with the gun butt touching his hip when he calls for the bird. He can't move the gun until the bird is thrown, which can take place any time within a three-second period after he calls. This puts considerable strain on the shooter, as he waits all tensed up during that indeterminate time. He knows he must get his gun up to his shoulder as soon as the target is thrown. But the gun movement must be smooth and carefully controlled, so that it hits the right spot on the shoulder every time.

The various events put different sorts of mental pressure on the shooter. Some events are finished without a break. The smallbore rifle prone and the free pistol match are shot in whatever fashion the shooter wishes, as long as he finishes within the time limit. The three-position matches are shot in the specified sequence of the prone, standing, and kneeling positions, with usually a 15-minute break between positions. There are other matches, however, which are spread over two or three days. This gives the shooter plenty of chance to develop a great case of jitters as he visualizes himself standing high on the award platform. It takes a great

Scoring a target

deal of discipline and self-control to ignore what has been done and to concentrate only on using the proper shooting techniques the next day. The rapid fire pistol and the running boar matches are usually shot over two days, with each shooter completing half the event each day.

The two shotgun events also give the shooter adequate chance to put the pressure on himself. Both events include 200 targets and both are usually shot over a period of two days, each shooter completing 100 birds a day. Even after he has completed his score he can't necessarily relax, as tie scores for the first three places usually result in a shoulder-to-shoulder shoot-off. Such a shoot-off, with a large number of spectators carefully watching every move, puts a tremendous amount of pressure on the shooter. Once again he must exercise rigid self-discipline and concentrate only on the task at hand—breaking that particular target.

The governing body for international (Olympic) style shooting in this country is the NRA, which is recognized by the United States Olympic Committee and by the International Shooting Union. Over the years, the NRA has grown far beyond its dreams and now has over a million members, with many thousands of clubs and other affiliated organizations. Its objectives now include a very much wider field than competitive shooting. But, because of the interest of its founders and its close relations to the military services over the years, the course of fire in NRA competitive matches tended to be the military courses. Equipment developed by the American shooter was especially suitable for these courses of fire. Shooting development in Britain, Canada, and some of the other English-speaking countries was, to some extent, along the same general lines.

European and South American competitive shooting has followed another pattern, resulting in the types of shooting described in this article. It is interesting to note that the one event of modern origin developed in the United States—skeet—is markedly different as it is shot in United States competition as compared to international competition. However, there has been a consistent effort to modify some of the U.S. courses of fire to bring them into closer agreement with the international courses, as well as to include some of the international courses in U.S. matches.

The courses of fire affect the guns and other equipment used by the competitor. The shooter who has ambitions to become a top international or Olympic competitor would do well to concentrate on the international game. Since American shooting has followed a different direction, there are not as many good international ranges in the U.S. as we would like. Some American shooting equipment does not precisely meet the rules of the ISU. The National Rifle Association has published rules and regulations in an attempt to bridge this gap. These rules apply the principles of the international rules, while permitting some relaxation in the details to allow U.S. ranges and U.S. equipment to be used. However, in the annual U.S. International Championships, ISU rules are generally followed rather closely.

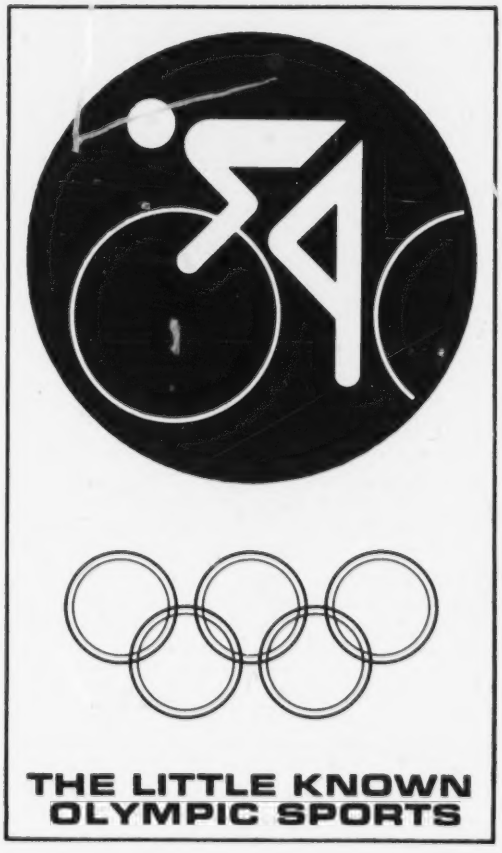
Copies of the shooting rules and regulations of the International Shooting Union can be obtained from the NRA, 1600 Rhode Island Avenue, N.W., Washington, D.C. 20036. Copies of U.S.-Modified International rules, as well as copies of rules for U.S.-type matches, may also be obtained from the NRA.

The rules of the ISU followed in the Olympic games are also those which regulate many competitions sponsored or approved by the ISU, including the World Shooting Championships, World Moving Target Championships, and the various regional games, such as the Pan American Games. The address of the International Shooting Union is D-62, Wiesbaden-Klarenthal, Germany.

MARTHA JACK, a physical education teacher at Indian Ridge Elementary School in Northbrook, Illinois, served as women's representative to the Amateur Bicycle League of America in 1968-70. The Illinois State Women's Cycling Champion in 1968-71, she participated in the National Championships from 1966 through 1971. In 1969 in Detroit she became the first woman to enter a team race with men; this was a major point used to instigate unisex racing in England, where it is working well. In 1967 she participated in an exhibition of women's cycling at the Pan American Games in Winnipeg, Canada. For the 1972 Olympics she worked to promote an exhibition of women's cycling—which will not be held because too few countries are able to send contestants—and she is encouraging the inclusion of women's cycling in the 1976 Olympic Games. Since 1967 she has raced every weekend from April through October.

Cycling

"Competitive racing is not a sport for the timid; it captures the interest of those who enjoy the spirit of winning and requires months of hard training."



Cycling is the biggest participation sport in the world today. This participation falls into several distinct categories, each of which calls for a particular type of bicycle, ranging from simple single-speed stock bikes to custom-built racing machines.

The biggest aspect of the sport is recreational cycling; from second graders riding after school to retired men out for an afternoon ride use the bicycle recreationally to see the community. The bicycle used is usually a middleweight bike of one or three gears which weighs around 30 pounds. Such a bicycle is also used for transportation. Many men ride to work or to the train in the suburbs. Mothers ride to the neighbor's or to the store for small items, and children ride to school. Touring captures the adventurous people who wish to see the countryside. A Sunday morning tour of 25 miles to get a breath of fresh air, see new sights, and enjoy the companionship of fellow riders is not uncommon for tourists. Others spend two days on the weekend riding on organized American Youth Hostel tours.

The competitive racing side of cycling captures the interest of those who enjoy the spirit of winning and are willing to spend months in hard training. The lightest and most mechanically efficient machines are used. It is not a sport for timid people.

In the United States racing is a minor sport and not well publicized. In Europe it is the biggest sport and culminates in the Tour de France stage race. The United States has amateur riders, whereas in Europe, England, Canada, and Japan there is professional racing. From the 1930s through 1959 there were professional six-day races held in the United States, but they no longer exist because of lack of support. World War II took the good professional cyclists from the sport; consequently, they never resumed professional racing. There are approximately 3000 amateur men and 100 women riders registered with the Amateur Bicycle League. At the annual national championships around 150 men and 20 women compete.

The bicycle appeared as a recreational device at the end of the seventeenth century, when the Frenchman de Sivrac put together his wooden *célérifère*, which had two wheels mounted on forks. The forks were joined by a transverse bar, which provided a seat of sorts and served with the handlebars as the points of support for the rider. This contraption was low enough to the ground to be pushed along with the feet, and was the direct offspring of the wooden horse that de Sivrac had built for his sons a few years before.

In Germany in 1818, Baron von Drais modified the célérifère and created the draisine, with rotating handlebars to control the front wheel. The Scotsman Kirkpatrick MacMillan 22 years later added levers that functioned when moved by the rider's legs. He also made the seat more comfortable, stripped away some of the unnecessary parts, and cut the weight by using lighter materials. The evolution continued with the addition of pedals, hollow tires, the spoked wheel, and pneumatic tires. Georges Juran, a Bordeaux mechanic, may be credited with inventing the modern bicycle; in 1885 he made a bicycle whose two wheels were the same size, and which had a transmission chain and friction bearings. In the same year, the watchmaker Joseph Meunier freed the rear wheel from the driving mechanism by means of a free-wheeling pinion gear, making it unnecessary for cyclists to pedal downhill.

Cycling originally was a pastime rather than a sport. But it became popular as an easy and economical means of transportation, and people began using it to go to work or school. As the number of riders increased, they began to form clubs around 1876; cycling competitions, which had been going on for several years, assumed increasing importance. On November 7, 1869, the Englishman James Moore vanquished his nearest rivals, an Italian and a Frenchman, in the 120 kilometer Paris-Rouen race, and went on to become the first world champion in the London competitions of 1874. These world meets were reorganized ten years later, at the bidding of Germany; they took on a true international character, and the names of August Lohr, Paul Bourillon, Edmond Jacquelin, Gabriel Poulain, Paul Guinard, Josef Fisher, and Gilbert Roger became well-known among cycling enthusiasts.

The first speed competition was held in Europe, over a ten-kilometer course, in 1891. The 24-hour cross-country race was instituted in France in 1894, and by 1896 the six-day race had become so popular that one was held at Madison Square Garden in New York City. This was an individual event at first, but was so taxing that it soon became a team race.

Cross-country races of 10, 20, 30, 50, and 100 kilometers were instituted at the end of the nineteenth century, and in 1900 the Grand Route Competition from Paris to Rouen was regulated by the International Cyclists Union. In 1902 Henry Desgrange, one of the great cyclists of those times, took advantage of the popularity of long distance racing to establish the annual Tour de France. Such novelists as Ernest Hemingway and Somerset Maugham have written of this thrilling competition in which cyclists cover 2,782 miles in approximately 25 days.

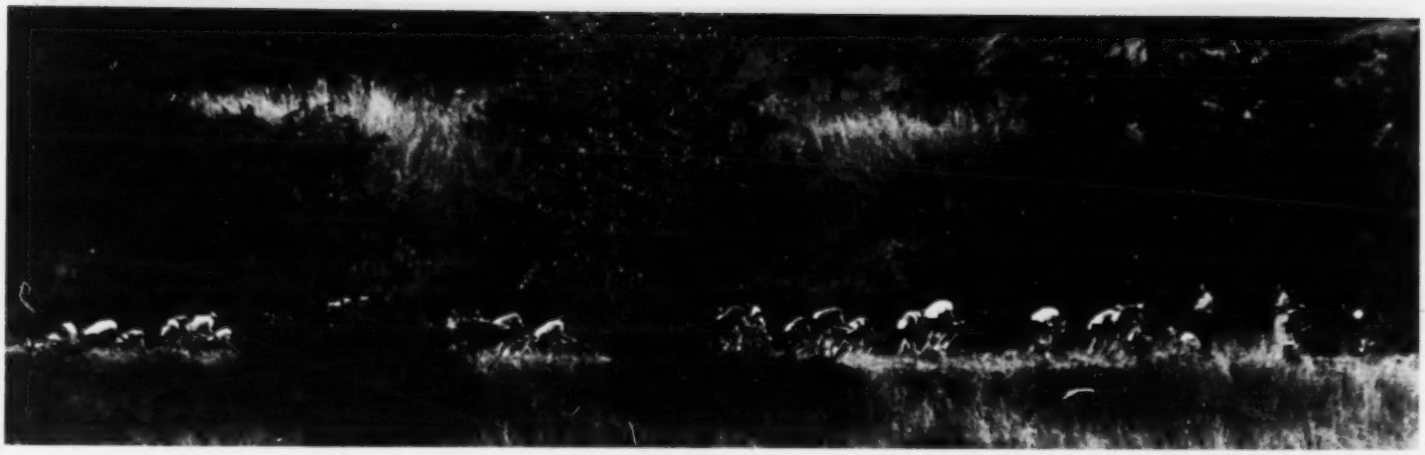
Cycling was included in the first Olympic Games of the modern era, celebrated in Athens in 1896. A. Konstantinidis of Greece won the individual road race, while Austria's A. Schmall came in first in the 12-hour race. There were two French winners in the competitions: P. Masson took the 2000 meter and 10,000 meter track races, and L. Flameng the 100 kilometer paced race. Until the Games of the eighteenth Olympiad, held in Tokyo in 1964, the most outstanding Olympic cyclists came from France, Italy, the Netherlands, Belgium, and England.

In 1921 the world distance championship for amateurs was established when Gunnar Skold of Sweden led the field over the finish line at the end of 190 kilometers at Copenhagen, Denmark. A similar competition was held for professionals six years later, over an equal distance, and Alfred Binda of Italy came in first. The pursuit competitions for amateurs and professionals was established in 1946, and in 1950 the International Cyclo-Cross Criterion became the world championship trial. It has been held annually since then.

Racing is divided into two main categories—road racing and track racing. A different bicycle is used for each.

The track bicycle has one fixed gear, meaning that the cyclist cannot coast and must pedal all the time. Because of this it is possible to balance for minutes, going nowhere, as part of a sprint race. A track bike also has no brakes, since they would only add weight and because track bikes are used only on bike tracks. When approaching another rider at a faster speed the cyclist passes instead of slowing down. The sew-up tires on track bikes are lightweight and have a smooth surface for less friction against the riding surface. The angles of the frame vary a little and the total weight of the machine is 16-19 pounds.

The road bicycle differs in that it has 10 gears and a free wheel, which allows coasting. Ten gears are used



for varying road and weather conditions to maintain a constant revolution of the legs. The tires are heavier because the road surface (where cars drive) is rougher. The heavier tire is also more resistant to puncture. Two caliper brakes pinch the rims of the wheels to slow momentum. The angles of the frame are bigger because the road shock is absorbed more for longer distances. A spare tire is kept below the saddle, with a pump on the frame. A top quality road bike weighs about 20-22 pounds.

Pedals of racing bikes have toe clips and toe straps which hold the rider's feet onto the pedal. These enable the rider to pull up on one pedal as he pushes on the other. However, during a fall he also goes down with the bike. The saddle can be made of leather or nylon depending on the preference of the rider. After much use a leather saddle is shaped to fit the contours of the rider's body. The stem and angles of the frame vary in size to fit the rider. The bicycle must fit him for maximum efficiency of movement.

Handlebars are turned down for maximum efficiency. Gravity expands the chest cavity so more oxygen is taken in. There is less wind resistance with the body streamlined. Also more muscles—those of the lower back—are utilized. Bars on the track bike are about one to two inches lower than on the road bike and the bend is slightly different. Road bars provide for five varying positions to grasp for different parts of a race. Rims are generally the same for road and track: they are made of aluminum with light steel spokes.

Both track and road bikes are made to fit the individual rider. The size of the frame (from the seat tube top to the crank center) is made to fit the rider so he can straddle the cross bar when standing on the ground. The stem length is altered to allow the right amount of bend in the rider's arms and angle of his back to the bicycle. An experienced eye can recognize if a racing bicycle fits a person or not, and it can be felt by the rider also.

Bicycle racers wear various things for both protection and efficiency of movement in going faster. The shoes are light leather which fits the feet like a glove. They have holes for ventilation and a cleat or ridge on the bottom. This fits right on the pedal so there is little chance of the foot coming out of the pedal. Usually no socks or light white socks are worn. The legs are protected with rubbing oil after a rubdown. Track riders usually shave their legs for further efficiency.

Tights are worn on the bottom and a jersey on top. Tights have a chamois insert for protection against constant friction with the saddle. They are made of nylon and fit tightly so there is no flapping in the wind to slow the cyclist down. They must be black in color. The jersey is usually made of silk or wool and fits very tightly also. Road cyclists have a jersey with pockets in the back and front to carry food while racing. The color of the jersey may represent the club he is a member of, the team he is riding for, or the area he comes from.

Gloves which have leather on the palm and cloth on the backs with no finger tips are part of the uniform. A crash helmet made of light leather ribs must be worn. A number on his seat identifies each contestant.

Road riders may wear their spare tire instead of keeping it below the saddle. Thus the cyclist is outfitted for action.

Several special techniques are used by cyclists, primarily in road racing.

The main technique used in cycling is *sitting in* or drafting. When one cyclist rides directly behind another, the first is providing a shield for the one behind. The one behind is not working very hard and the first is struggling to keep the pace up. In an *echelon,* in which several cyclists are sitting in on one another, each rider takes his turn of about 200 meters at the front before dropping to the rear. In this way the total time for all riders is less and fatigue is lessened when one can sit in every fifth person or however many riders are in the echelon. If a cross wind is blowing, then the rider does not sit directly behind, but to the opposite side and behind.

The *jump* is used during or right before a sprint. This sudden burst of speed can catch opponents off guard and win a race if used at the right place. A jump is also used to break away from a pack of riders.

In *gearing* the objective is to keep the legs turning at the cyclist's best cadence—perhaps 90 to 110 revolutions per minute. During a race, to keep the legs turning constantly, the gear is changed according to changes in the pace, wind, and road conditions (hills). Gearing is also used in track racing, depending upon the competitor and how the contestant feels that day.

Ankling is the pedaling technique of pulling up on the back of the stroke till the top, then pushing down through the front of the stroke before starting again. Ankling utilizes the anterior tibialis as well as the posterior gastrocnemeius and medial muscles.

When a rider is sitting on another rider in a two man *break away,* one may want to get away from the other. This is usually done by jumping, but there are other methods. Suddenly slowing down sometimes works if a rider can keep from being run into or riding the other rider to the side of the road.

In *climbing* hills or mountains the position of most power is with the hands on the brake levers and pulling up. In this way the whole body is used to push the pedals.

Road races are contested on country roads, usually on a circuit course. The promoter tries to give the riders a variety of terrain to split the contestants—hills, flat, corners. Distances vary from 25 to 120 miles for road races.

Criterion races are held around a city block or two for distances up to 35 or 50 miles. With a circuit of .8 miles some races require 63 laps to complete the distance.

A point race is generally a criterion. At specified laps during the race there is a sprint to the line. The first across gets 7 points, second 5, third 3, fourth 2, and fifth 1 point. At the end of the race whoever has accumulated the most points is the winner.

Stage races are held in stages over two or more days. Five different stage races are held in the United States annually. Each stage is like a road race and the total time of all four stages is added to determine a winner.

Other types of races are handicap race, match race, time trial, pursuit race, miss and out, team race, and unknown distance.

Events contested in races as just described are generally not those held in national or international competition. At the National Championships there are road and track events for men and women and for boys and girls in different age groups. At the World Championships road and track events are held for amateur and professional men cyclists and for women.

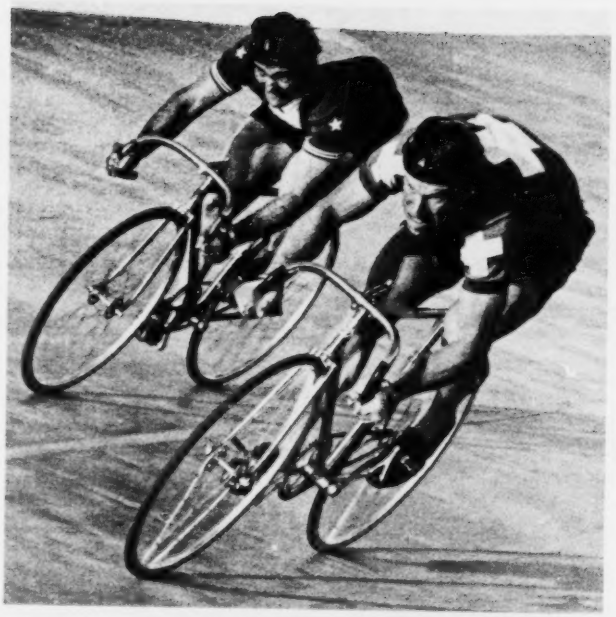
At the Olympic Games the same events are held as the World Championships in men's amateur racing. Track events in the Olympics are the 1000 meter sprint, 1000 meter individual time trial, 4000 meter individual pusuit, 4000 meter team pursuit, and 2000 meter tandem sprint. Road events are the 196-kilometer individual and 100-kilometer team time trial.

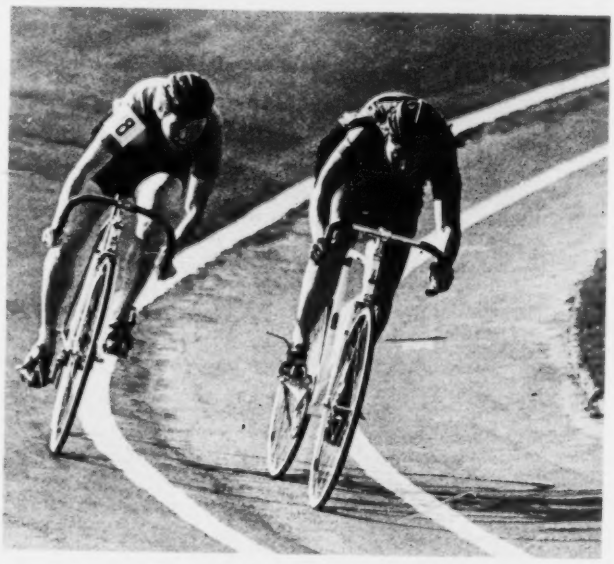
It was hoped to have an exhibition of women's cycling events in the 1972 Olympics, but they will not be included because there are not 25 different countries able to send contestants. Maybe there will be a chance in the 1976 Olympics for women cyclists.

Track events are held on a velodrome or bicycle track. There are nine velodromes in the United States. Most racing activities center around these tracks. All tracks are outdoors and made of either asphalt or cement. The fastest track is made of wood, but maintenance in certain climates is too difficult. The angle or banking in the turns and distance around varies; all tracks are elliptical in shape. Tracks are located in Northbrook, Illinois; Kenosha and Milwaukee, Wisconsin; St. Louis, Missouri; Detroit, Michigan; Encino and San Jose, California; Portland, Oregon; and New York, New York.

The scratch sprint race is 1000 meters in length—three laps of a 333-meter track. Participants use the first 800 meters in offensive and defensive tactics; and the contest is decided in the last 200 meters, which are timed. Speeds up to 45 miles per hour are attained, with times around 11 to 12 seconds for the last 200 meters.

The formation of competing groups is decided by a drawing, as is the selection of the anchor man, who must lead the group for at least one lap, after which the other competitors may pass him—but only on the right. The anchor man, after the first lap and up to the 800 meter point, attempts to block out his competitors, and may





This page, top to bottom: Senior men sprinters in the 1969 National Championships in Detroit, Michigan; Women sprinters in the 1970 National Championships in New York; and senior men hillclimbing in the road race in the 1971 National Championships in Salem, Oregon.

utilize his advantage even to the point of coming to a full stop, while maintaining his balance on his bicycle, thus forcing his competitors to do the same. This static position has at times been maintained for up to 48 minutes. Racers may not roll backward for more than .2 meters. The reason for balancing is that no rider wants to lead. Up to the 200 meter mark this is a disadvantage because of having to keep track of the other rider by looking over your shoulder and also keeping your balance. The trailing rider is at an advantage because it is much easier to take the offensive and jump to the pole line with a surprise attack. The leading rider must not only follow this jump at the same instant, but is also on the defensive in having to keep pace with the attacker.

Another tactic used in sprint racing is boxing. A rider must come from behind and above his opponent to be ahead of him slightly entering the last turn. The boxer holds his opponent between himself and the pole (two lines designating the shortest distance around) by being in the way. If the opponent slows to pass, then the attack is made by jumping and the other rider is away.

Tandem competitions are organized and developed in a manner similar to that of the scratch sprint, except that the bicycle used in this event has two seats. The two-man team, with both partners pedaling in unison, races over the 2000 meters of the trial.

The 1000 meter individual time trial is a race for the fastest time over the 1000 meter course. Starting positions are determined by a drawing of lots.

The 4000 meter individual pursuit is held in successive stages. First each participant is timed. The eight cyclists having the best times go on to participate in the following stage, in which they are listed, according to their times, from one to eight. The quarter-finalist groups are then formed, in the following manner: 4th versus 5th, 3rd versus 6th, 2nd versus 7th, and 1st versus 8th. From the four winners, two groups are formed for the semi-finals, either through a drawing or in accordance with their times. In the finals the winners compete for first place and the losers for third, with second and fourth places being decided automatically.

At the beginning of the race, the finalists take their places in the middle of the straightaways on opposite sides of the track. From these positions, at the signal from the starting juoge, they race off in pursuit of each other. The winner is the contestant who arrives at his finish line first or who overtakes his opponent.

In the first part of the *4000 meter team pursuit,* teams of four men successively race the 4000 meters of the course. Time is clocked on the third cyclist of each team to reach the finish line. In this elimination race against the clock, the eight teams that make the best times qualify for the next phase of the pursuit race. These teams race against each other in the quarter-finals; the fourth with the fifth, the third with the sixth, the second with the seventh, and the first with the eighth.

In each race the contending quartets line up diametrically opposite each other on the track, in the middle of the straightaways, and race off at the sound of the starting gun. Each group has its own starting and finish lines. In order to qualify, at least three cyclists from a team must reach their finish line, and the winning team is the one whose third racer reaches the finish line first. If the third cyclist of one team draws abreast of the third place member of the other team, the race is automatically won.

From the start, the group of four cyclists race in a line, one behind the other, and during the course of the trial they alternate as anchor man.

The four winning teams race in the semi-finals—two teams at a time. They are paired by drawing lots or by the method mentioned previously. In the finals, the two winners compete for first place, and two losers for third place.

The 100 kilometer team time trial is organized like a road race. Starting positions depend first on the time achieved in the most recent world championship and in the last Olympic Games, with the last-place team starting first. Teams which did not participate in either event must draw lots.

Members of the same team are allowed to provide one another with food and spare parts, and to aid each other in repairs and change of tires or bicycles. However, they are not allowed to pull or push fellow team members. Once a cyclist has dropped out, he cannot re-enter the race. Any team that loses two of its members is disqualified.

Each team is followed, at a minimum distance of 20 meters, by a vehicle occupied by a road judge and two team representatives. The representatives may have with them as many as four replacement bicycles. Microphones are used by the judges for enforcement of the rules.

In the *196 kilometer individual road race* participants start at the same time in a single group. With the exception of change of tires or bicycles, the racers on one team may help each other with food, repairs, or replacement of minor parts. Change of tires or bicycles may be made only at the designated stops that have been established along the course for mechanical repairs. However, it may be prearranged for the vehicles following the racers to provide this service. Places are awarded as each cyclist reaches the finish line.

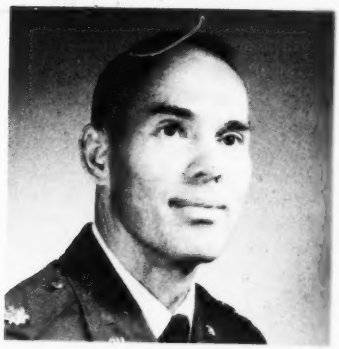
The governing body for all cycling is the Union Cycliste Internationale (UCI), with headquarters in Paris. The Amateur Bicycle League of America is the governing body of racing in the United States, and it is affiliated with a section of the UCI and with the Amateur Athletic Union.

The current Amateur Bicycle League president is Ernest Seubert, 137 Brunswick Road, Cedar Grove, New Jersey 07009. The organization has 16 people on the board of directors, which is the policy-making body, as well as state representatives, who oversee racing activities within their state.

The League of American Wheelmen is a touring organization. The American Youth Hostels also organizes touring rides locally. The International Bicycle Touring Society (IBTS) organizes international rides yearly and is usually a select group of people.

In international competition the United States rarely does well. Our best cyclists, however, have done well in international competition recently. In 1969 Audrey McElmury (California) won the women's world championship road race. In 1971 John Howard (Missouri) won the road race at the Pan American Games held in Cali, Colombia. These are the only two gold medals the United States has ever won in international cycling competition. □

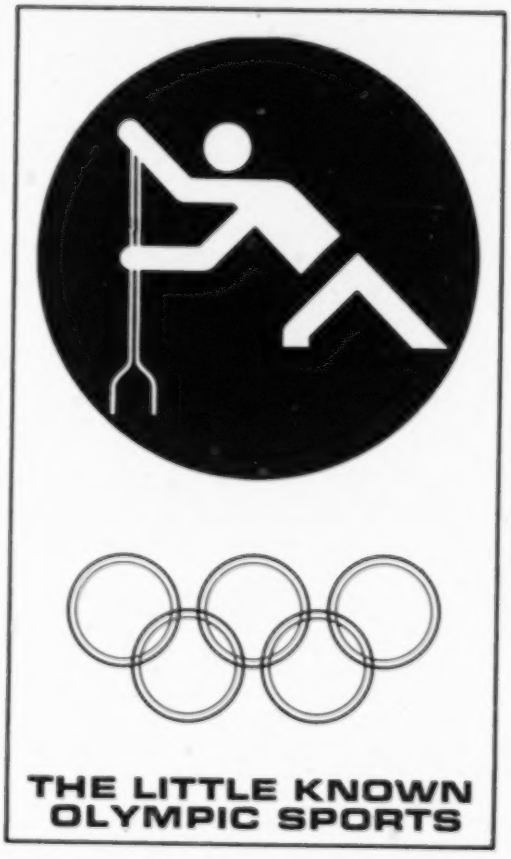
SPERRY RADEMAKER, a housewife in Floral City, Florida, is editor of the National Paddling Committee News Bulletin *and has begun coaching high school paddlers. She began paddling in 1963 after a dozen years of competing nationally in swimming and track. Her sister, Marcia Smoke—winner of a bronze medal in the women's singles at the Tokyo Olympics—has served as her coach and doubles partner. In 1965 Mrs. Rademaker won her first national singles championship, tying her sister. Since that year the two have consistently come in first and second in the singles, first in doubles, and first or second in the four-man kayak at the Nationals and North American Championships. In the new 5000 meter singles event, Mrs. Rademaker is the first and current National Champion. In the doubles she was sixth in the 1966 World Championships in East Berlin and seventh in the 1968 Olympics.*



JERRY L. WELBOURN, a lieutenant colonel in the U.S. Air Force, is presently assigned to the Pentagon in Washington, D.C. He began canoeing and kayaking in 1965 and won the C-1 Intermediate National ACA Championship in 1966. Since 1968 he has concentrated on kayaking and has won National ACA Championships in K-1 Intermediate, K-2 Senior 1000 meters, and K-2 Senior 10,000 meters. He qualified for the 1970 World Championship team and plans to try out for the 1972 Olympic team. A former pole vaulter, Lt. Col. Welbourn's achievements include Big Ten, Penn, and Drake Relays Championships and the 1954 AAU Indoor championship; he was a member of the NCAA College All-American Track Team and of four National AAU-sponsored track teams which toured overseas. He received the Doctorate of Veterinary Medicine from Ohio State, the master's degree in food technology from M.I.T., and the Ph.D. in food science from Purdue.

Canoeing

"When you are alone in a canoe or kayak, you are on your own; the better you learn to paddle and control it, the more fun it becomes."



Modern canoeing has its base in North America. So ingrained is the canoe in our history and lore that the saying, "a person has to paddle his own canoe" is used to explain the need for a person to grow up and be independent. When you are alone in a canoe or kayak, you are on your own; the better you learn to paddle and control it, the more fun it becomes.

Flat-water canoe racing (the term "canoeing" includes both canoes and kayaks) is the epitome of all canoeing, demanding the finest in technique, balance, and equipment, and the utmost in strength and endurance. There are races for both men and women in kayaks, while only men race canoes.

Canoeing differs from kayaking in that canoeists kneel rather than sit, have only a single-bladed paddle (consequently paddling on only one side of the boat), and must steer with the paddle instead of a rudder. The kayak paddler maintains a fast, even, perpetual motion stroke, while the canoeist uses a one-sided leaning stroke from a much higher position. The kayak is a faster boat than the canoe, with the four-man kayak being capable of speeds high enough to pull a water skier.

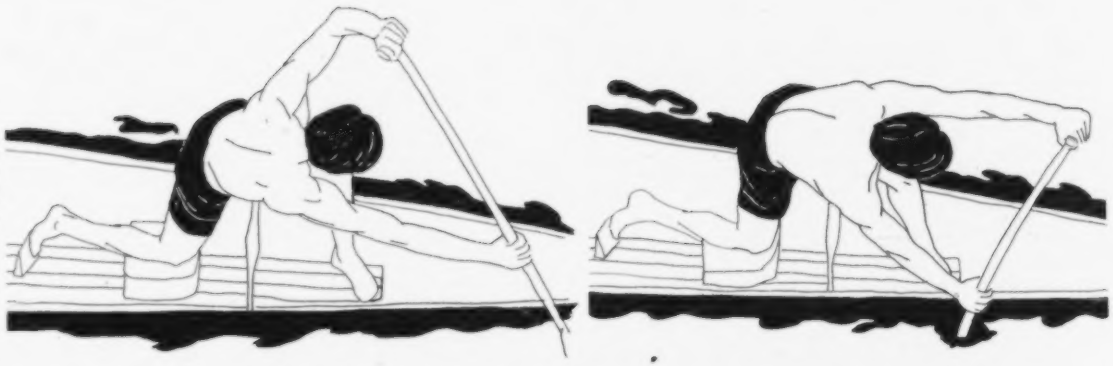
Anyone who wants to can be a paddler. Some coaches want to work only with large, well-developed athletes. However, national and Olympic champions come in all sizes and physiques. Physical requirements are usually overplayed. Naturally, a strong individual has an advantage, but strength and endurance can be developed, and the paddling technique can be modified to make the best use of an individual's physical characteristics. Adherence to basic paddling principles and efficiency of technique is more important than the size of a person's muscle. Motivation, determination, and intelligent analysis of performance, along with good coaching, are usually the deciding factors in determining who wins. Determination is particularly important in paddling, because this is a difficult sport; at first, and even later, it can be uncomfortable and frustrating. Getting wet or tipping over in winter waters is not fun; neither are blisters and callouses on thumbs and seat. But overcoming these problems gives one a sense of achievement, and when the day comes that a paddler can balance his boat easily and paddle along smoothly, he has really done something. At that point, he is ready to begin the hard work!

Which type of boat to concentrate on is usually decided by the availability of one or the other. There are many more racing kayaks than racing canoes in the United States, but there are many standard canoes in which a beginner can learn the basic style of single-blade canoeing. A girl has no choice but the kayak, but a boy must consider and choose.

One factor that can be decisive is that more kayak paddlers than canoeists are on the Olympic team because of the four-man kayak event. Also, it is easier for kayak paddlers to join and make up a team boat, since left- and right-sided paddlers do not have to be considered. The canoe is perhaps more challenging with its constant steering problems. The prospective paddler must decide which appeals to him and what opportunities there are for him with regard to both available boats and potential partners.

Both kayak and canoe beginners must be aware of certain principles which hold true for both boats. The most important one, of course, is safety. Because of the tippy nature of these boats, only good swimmers should be allowed in them. Paddlers should stay near the shore, avoiding large open areas and motor boat routes. They should not wear heavy clothing; even in cold weather a rubber windbreaker will keep the paddler comfortable after he has warmed up. A life preserver should be carried in the boat, and in very cold water

"The real fun of canoeing begins after the paddler overcomes the problems of tipping over in winter waters and getting blisters and callouses on thumbs and seat."



Right: Former world champion canoeist Andy Toro demonstrates the canoe stroke. Far right: Sperry Rademaker in her kayak.

(below 50 degrees) inflatable life vests, such as those worn by scuba divers, should be worn.

Another principle is that good paddling comes only after the paddler has a sense of security in the boat. This sense is created by a good sense of balance and is the most obvious and difficult part of paddling for the beginner, especially older ones. The younger a paddler is, the less problem he has with balance, primarily because his center of gravity is lower in the boat than an older, larger person's. Women and girls usually have an easier time with balance than men do because of their lower center of gravity. Experience in other sports that require good balance—such as diving, gymnastics, and ballet—is useful. Balance is mainly achieved by practice in single canoes or kayaks (beginning without the seats being in), because these are the tippiest boats. The coach can help a little, by telling the paddler to relax his hips, not to pull back too far, and to keep his eyes on the bow of his boat; but this trying period is essentially between the paddler and his boat. Here the main job of the coach is to keep an eye on the paddler and make sure he knows how to right his boat, swim in and empty it, and get back in (easier said than done).

Another principle the beginner must concentrate on is using his whole body—using the larger muscle groups first, since these are the most powerful ones. This is especially important when the blade first dips into the water. Combined with strong and energetic body movements should be a definite rhythm which allows relaxation of the muscles not actually being used. This rhythm is important in racing because it delays fatigue and permits each contracting muscle to achieve its maximum power. Although paddlers have to work to achieve balance, many of them have an exaggerated fear of tipping. However, as long as the body is perpendicular to the water surface, the paddler will not tip, no matter if his boat is tilting back and forth.

All kayak paddles have their two blades angled at 90 degrees to each other, so that while one blade is being pulled through the water, the top one is swinging forward with an edge leading, minimizing air resistance. A paddle is called "right" or "left" control in accordance with which hand controls the twist of the paddle; the control has nothing to do with being right- or left-handed.

Fiberglas kayaks are available, but the good paddlers prefer wood. For beginners, though, fiberglas has the advantage of being a bit more durable.

The canoeist's racing paddle is lightweight with a broad square-tipped blade 8″-9″ wide and 21″-24″ long. The overall length of the paddle is such that it stands about even with the bridge of the nose; however, this varies with individuals. The beginner may want a shorter paddle with a narrower blade, while the stronger, more proficient paddler will take just the opposite. Paddlers in team boats often use a slightly shorter paddle.

Virtually all newer Olympic racing canoes used in the United States are Danish canoes, or fiberglas models thereof. The Delta single man (C-1) and Espida two man (C-2) canoes are two of the newer models.

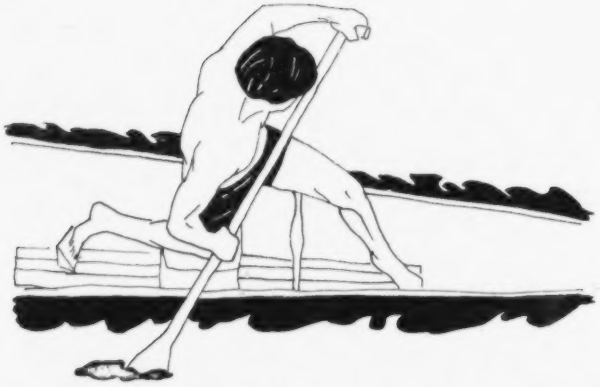
A canoeist must have some sort of cushion to kneel on as he paddles. A life preserver cushion, canvas covered, is usually preferred and is easiest to obtain, but homemade cushions filled with cork, foam, or even sawdust shavings may be used. Often pieces of foam or rubber material may be carved to fit the contour of the knee. Foot braces are usually added to the canoe; there are many ways for a paddler to position himself in his canoe so as to make it ride properly.

Whether the canoeist paddles on the right or left depends on which side feels more natural and which side his partner paddles on, if he has one. The canoeist who paddles on the right has an advantage in the 10,000 meter races because all the turns are to the left, but in doubles both sides are equally important.

Canoeing events have been held at every Olympic Games since 1936. The Americans had some success at first, but until 1964 there was a drastic drop-off in level of performance. At present only a few individuals have managed to do well in international competition, although the level of our paddling is improving every year.

In the 1964 Olympics in Tokyo, Marcia Smoke won the first medal ever for an American woman, a bronze in the women's singles. It was her first international race, and she had actually raced less than a dozen times. The European paddlers and coaches were surprised at her performance. Their surprise doubled later when Gloriane Perrier and Francine Fox raced to second place in the women's doubles.

At the 1968 Olympics, Marcia Smoke was fourth in the singles; she and her sister, Sperry Rademaker, were seventh in the doubles. The American Andy Weigand was eighth in the men's single canoe. As more paddlers are developed in the United States, chances for a strong competitive team will be greatly increased. Because of the small nucleus at the top, paddling is a good sport



for an aspiring athlete who hopes to make an international team.

Five men's 1000-meter flat-water paddling events are on the Olympic program—kayak singles, doubles, and fours; and canoe singles and doubles—and two women's 500-meter events—kayak singles and doubles. White-water slalom racing has been added to the Olympic agenda, beginning with the 1972 Olympics in Munich. It is difficult to find suitable white water in many places. Olympic canoeing is usually held on the rowing course at the Games site.

The world championship program contains many more events, and there is hope that at least some of them will be added to the Olympic program—such as distance races for both men and women, and 500-meter races for men. Olympic canoeing events have been added and dropped throughout the years, and there is always the possibility that more change will come.

Internationally, canoeing is regulated by the International Canoe Federation (ICF), which includes 35 national groups. The most recently admitted federation is the Ivory Coast, approved at the Mexico City meeting or ICF Congress in 1968.

The American Canoe Association (ACA) is the oldest member of ICF, dating from 1880; the number of members, however, is comparatively small, only 1200, considering the historical importance of canoeing from the earliest days of this country. The USSR, for example, counts 59,000 members; West Germany 67,000; England 19,000; and Sweden 5700. About half the federations were born after 1930, for organized canoeing in much of Europe is a relatively young sport.

It is hoped that, before the 1974 flatwater world championships in Mexico, additional national federations can be organized in Central and South America. International flatwater and slalom racing will also be held on the North American continent in 1976 at the Montreal Olympics.

The American Canoe Association directs regattas in various parts of the United States and is responsible for choosing teams for Olympic and International competitions. There are four main levels of competition for men and women: juvenile (under 16), junior (16 and 17), intermediate (18 and over), and senior (all who have won a national, intermediate or senior championship, or who have been on an international team). Most regattas are held in the summer, although California and Florida paddlers race year-around. There are also scholastic and intercollegiate races in the spring and fall. Information concerning membership in the ACA can be obtained from David G. Cowart, P. O. Box 9137, Chicago, Illinois 60690.

The monthly *News Bulletin* of the National Paddling Committee is available for $2.00 from either Sperry Rademaker, editor, or Marcia Smoke, publisher, whose addresses appear below. This publication lists race results and schedules, discusses rules changes, and has articles on technique and training.

The main areas of activity in the United States are in New York, Connecticut, Washington, D. C., Chicago, Niles (Michigan), Los Angeles, and Florida. Following is a list of leading paddlers and individuals who have shown a desire to help beginners in different areas: Bill Bragg, 3427 Gloria, Newbury Park, California 91360; Clyde Britt, 47 Summit St., Ridgefield Park, New Jersey 07660; Ted Houk, 6019 51st Ave., Seattle, Washington 98115; Virginia Moore, 2003 Kalia Ave., Apt. 7-F, Honolulu, Hawaii 96815; Pat Murphy, Lake Road, Columbia, Connecticut 06237; Gloriane Perrier, 924-25th St., N.W., Apt. 109, Washington, D. C. 20037; Sperry Rademaker, Rt. 1, Box 415, Floral City, Florida 32636; and Marcia Smoke, Rt. 1, Box 83, Buchanan, Michigan 49107.

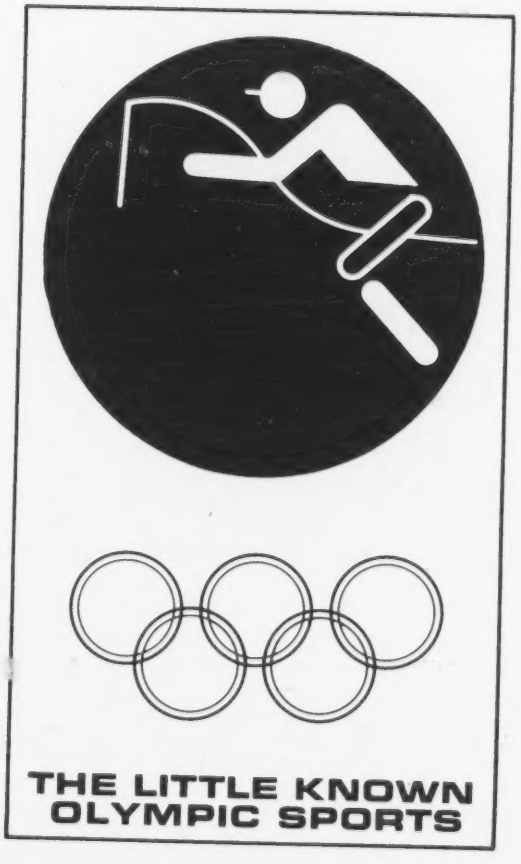
In training for racing, paddlers in the two younger age groups should practice for 500 meter races and occasional 5000 meters. All women race those distances also. The men's division has races of 500, 1000 and 10,000 meters. All races are in calm water (no rocks, strong currents, or slalom) and are in straight lines, except for designated turns in the distance races.

To do well, a paddler has to be in good condition in addition to having good technique. Modern training methods involving interval training such as swimmers and runners use are followed by the best paddlers. During the competitive season, most paddlers train twice a day, at least an hour each workout, usually covering 8-15 miles per day, much of it in hard sprints. During the winter season more distance work is stressed, concentrating on stroke technique. Paddlers also develop strength and endurance with weight training and running programs. But nothing helps paddling more than actual paddling, which is why more and more paddlers are going to Florida and California to school. As with any sport, dedication will bring forth results. □

LEICESTER J. SWEELEY, JR. is assistant executive secretary of the American Horse Shows Association, Inc., 527 Madison Avenue, New York, New York 10022.

Equestrian Sports

"The rider demonstrates the skills and the courage needed to make the horse obey all commands, and to ride and jump with speed and grace."



Equitation, the sport of riding horses, developed in three steps. The first took place in North America. Here, over a period of 45,000,000 years, a small, fox-like, four-toed animal about eleven inches high called eohippus gradually evolved into a pony-sized, single-hoofed animal called *Equus,* or horse. At that time, the horse is believed to have reached Europe over the land bridge thought to have connected the Old and New Worlds. The land bridge disappeared; some time after this, the horse itself, possibly because of some disease, vanished from North America. The American Indians were not to see the native American *Equus* until European conquerors brought it back to the New World.

The horse was one of the favorite game animals of Paleolithic man; the bones of over 100,000 horses have been found at the Old Stone Age campsite at Salutre, France, and horses appear with other meat animals in the cave drawings of Europe. Although hunted as food in early prehistoric societies, the horse was one of the last animals to be domesticated by man. The earliest riders were men of the Bronze Age, about 4000 years ago.

Once domesticated, the horse was originally used for hunting and for war. This was the second step in the development of equitation. By the time of the original Olympic Games in Greece in 776 B.C., horse racing in Assyria had become the Sport of Kings—and polo the royal game of Persia. Chariot racing made its debut at the 25th Olympiad in 680 B.C.; mounted horse races became Olympic events in 648 B.C.

The third step in the development of modern equitation was taken in sixteenth-century Europe when the riding skills of the age of knighthood were refined and formalized for non-lethal tournaments of horsemanship. New generations of riding masters, Grisone of Italy being the most prominent, set up riding schools to train the aristocracy in the arts of the new horsemanship. Out of these early academies came the great riding schools of Austria, France, Italy, and Sweden.

The equestrian sports, in which the rider demonstrates the skills and the courage needed to make the horse obey all commands, and to ride and jump with speed and grace, had become the great events of international horsemanship by the time the modern Olympic Games were revived in Greece in 1896.

Organizational and economic barriers kept the equestrian events out of the Athens Olympiad in 1896. Four years later, in Paris, Olympic equitation seemed to be launched when three jumping events were programed. Belgian riders took two of the gold medals and a French equestrian won the third. But after 1900, equestrian events vanished from the Olympic scene until the Stockholm Olympiad of 1912.

The Stockholm games marked the real debut of modern equestrian events in Olympic competition. The Swedish riders took four of the five gold medals, France the remaining one. The United States team took a bronze medal in the military team event.

Sweden and Holland dominated Olympic equestrian competition for the next 20 years. Holland's Lt. Ferdinand Pahud de Mortanges captured four gold and two silver medals in the Olympiads of 1924, 1928, and 1932 to set a lasting Olympic record.

In 1932, and again in 1948, the U.S. equestrians won the unofficial team championships in Olympic competition. U.S. equestrian showings in 1952 and 1956 failed to reach these levels, but in 1960 the U.S. jumping team took the silver medal.

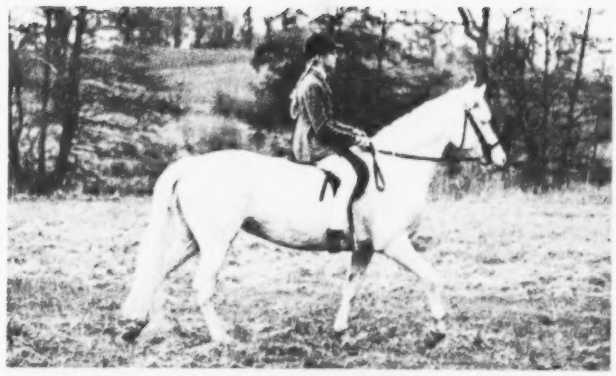
Before the first World War, Olympic equestrian events were largely contested by the riding teams of the world's armies. The military tradition of the equestrian events persisted for decades. But as modern armies, including our own, began to abandon their horse cavalry units, the Olympic equestrian teams of many countries began to look to nonmilitary circles for riders. This also opened the gates for women, since the equestrian events allow for equal competition between men and women.

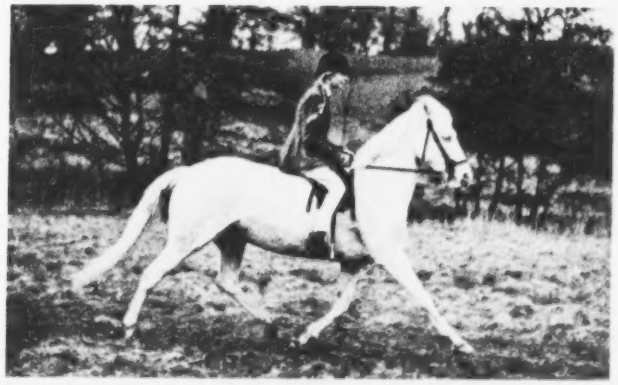
England's Patricia Smythe was a member of her nation's Olympic equestrian teams in 1956 and 1960. Riding for the United States in the 1960 Olympic Games at Rome, two 21-year-old girls, Patricia Galvin and Jessica Anne Newberry, placed 6th and 12th in a field of seventeen. Patricia's teacher, Henri St. Cyr of Sweden placed fourth, and the gold medal was won by Sergey Filatov of Russia. Three other women competed in this event, including Brenda Lillian Williams of England, who placed 11th. At the age of 65 Brenda Williams was the oldest competitor in any Olympic sport in 1960.

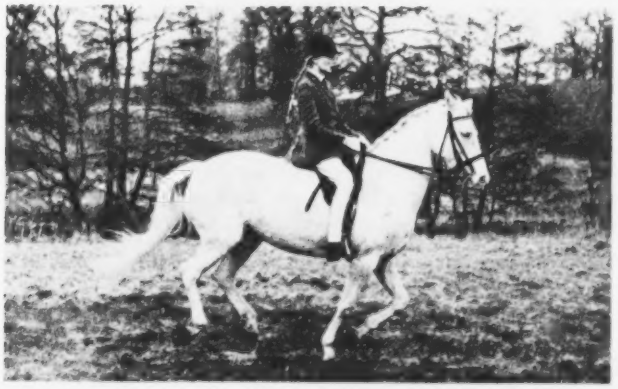
In November 1949 a small group of horse-minded sportsmen assembled in New York to discuss the United States' future representation in international equestrian competition. The U.S. Army Cavalry team, which had represented the U.S. in all the Olympic Games betwen 1912 and 1948, had been disbanded. There was no team to represent the United States at their own National Horse Show, and unless something could be done quickly, there would be no team to represent them at the next Olympic Games.

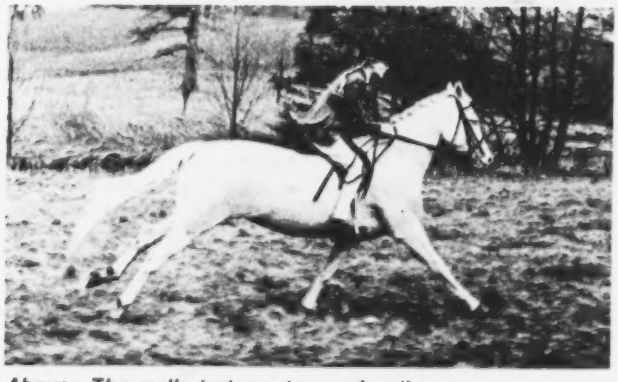
The result of this meeting was the formation of International Equestrian Competitions, Inc., the title of which changed a year later to the United States Equestrian Team, Inc. (USET.) From the start, this nonprofit civilian group faced a steep uphill fight. It was able to lease a few key horses from the Army and borrow the Fort Riley facilities for its 1951 pre-Olympic training. But civilian jumping competitors knew little of European rules, and "dressage" and "three-day" were strange words to most American horselovers in 1950.

Many miles have been traveled, and a lot of fences jumped since that day in 1949. The team's passports bear imprints from Helsinki, Mexico City, Stockholm, Rome, and countless other foreign cities. Trophy cases reflect the fact that year by year more and more of the fences have stayed up, and that in recent years American horses









Above: The walk, trot, canter, and gallop.

Photographs on pages 42 and 43 are from Better Riding, *by Lt.-Col. W. H. Froud (© 1971), and are used courtesy of the author and the publisher, Kaye & Ward, Ltd., London. The book is available in the United States from SportShelf, P.O. Box 634, New Rochelle, New York 10802.*

have performed a respectable passage and piaffe as well. Even more importantly, U.S. teams are acknowledged to have made a real contribution to the enhancement of a national image abroad and have played a significant role in raising the overall standard of horsemanship at home.

A great gabled concrete stable flanked by a quarter-mile training ring and set on the edge of several thousand acres of privately owned land in Gladstone, New Jersey, has become the first permanent home of USET. It took several years for the organization, devoted to international horse show competition, to achieve its present degree of stability. Similar establishments for the development of riders and horses exist in other countries such as Germany, France, Spain, Mexico, and Italy. USET has launched a new national development drive for the Olympic Games, and offers training to men and women candidates for the Olympic team.

Hamilton Farm, the estate rented by USET, includes offices and living quarters, tack and carriage rooms, grooms quarters, and a large upstairs wood-paneled trophy room. There are 52 stalls on two different floors. In 1962 an indoor riding hall was added, to make year-round training a practical reality. The facilities also include access to several hundred acres of woods and fields on which have been developed steeplechase and cross-country jumping courses for training and trials.

For the first time, USET has a permanent place with lots of room to stable horses. One of the great disadvantages of the past was that there was no place to retain horses that might be good enough to keep and develop, but not quite good enough to send into international competition. Now USET can bring in prospective riders and train them to the high degree of excellence international competition requires.

The organization, whose president is Whitney Stone, screens available talent through periodic trials at locations throughout the country. Capt. Bertalan de Nemethy, the coach, visits each trial to select the riders with the highest potential. The best are brought to Gladstone for intensive advanced instruction in jumping, cross country riding, and dressage. There may also be others who come for instruction at their own expense.

USET is a nonprofit, voluntary organization which undertakes "to promote international relationships, good will, and a better understanding of the United States through competition of equestrian teams of the United States with similar teams of other nations in the Olympic Games, Pan-American Games, and other international competitions, and to that end . . . to select and obtain for the United States the most competent amateur representation possible . . . by forming, training, preparing, and financing teams to represent the United States in such competitions" (taken from the USET Charter of Incorporation).

USET is financed entirely through the tax-deductible contributions of interested individuals and organizations. Unlike many other national teams, USET receives no direct or indirect government subsidy, nor does it participate in U.S. Olympic Committee funds in the absence of specific instructions to that effect.

Riders are selected solely on the basis of demonstrated proficiency, in regional and/or national competitive trials. In Olympic and Pan-American Games years, such trials are conducted with the authority and under the supervision of the Equestrian Games Committee of the U.S. Olympic Committee. Horses are loaned or donated to the team by interested horsemen. The most successful team horses have generally been thoroughbreds (or nearly so), from 16.1 to 17.1 hands in height,

and between 5 and 10 years of age. Needless to say, they must also possess superior abilities.

Interested individuals can help, first by becoming regular or junior members of the USET. Second, they can help us to gain the interest and support of horse-minded and sport-minded people who are not familiar with USET. And if their abilities or their horse's might qualify for team participation, they should submit all pertinent information to the USET office at Gladstone, New Jersey.

Equestrian sports in the Olympic Games are the Grand Prix de Dressage, the Three-Day event, and the Prize of Nations stadium jumping event. All of these events are conducted on both an individual and a team basis, and women as well as men are now permitted to compete in all three. Olympic competition, however, differs from international events in that competitors are held to minimum numbers.

For the dressage, each nation is permitted to enter three competitors. For the jumping event, each nation can enter four riders, of which only three can compete. For the three-day competition, each nation is permitted four competitors, but only the scores of the best three count toward team rankings. Each rider, including the reserve in the jumping event, can enter two horses, but only one of these may actually be riden in the test.

In the dressage, no horse can take part which has been trained by anyone other than the competing rider after its arrival in the city where the Games are to be held. A horse that has participated in three previous Olympic Games is ineligible to compete. Each entry is given 12 minutes to execute a complicated pattern of maneuvers within a specified arena area. Points are awarded by the judges upon the degree of performance of each maneuver. Points are also deducted from the total overall score for exceeding the time limit, for errors, and for omissions.

The three-day event is a rugged one. The contestants first engage in a dressage test which is less complicated than the Grand Prix de Dressage, but which has the same time limit, 12 minutes.

The second day of competition is devoted to the endurance test which consists of riding over a cross-country course which must be completed without a break. The course is divided into five phases, each different in nature, obstacles, contour, and distance. Each of these phases must be ridden at a specified speed and must be completed within certain time limits, or the rider is eliminated. The whole test is decided on time and penalties are incurred for exceeding the time allowed for any phase. Competitors are also rewarded with bonus points for completing the second and fourth phases in less than the time allowed. In addition, penalties are incurred for mistakes at obstacles. The test proves the speed, endurance, and jumping ability of the true cross-country horse, and demonstrates the rider's knowledge of pace and the use of it cross country as well.

The test on the third day is not the usual type of jumping competition, nor is it a test of style or endurance. Its sole object is to prove that, on the day after a severe endurance test, horses have retained the suppleness, energy, and obedience necessary for them to continue in service. The rules for jumping are specifically modified from those for the Grand Prix Jumping. Principally, the course is not as difficult.

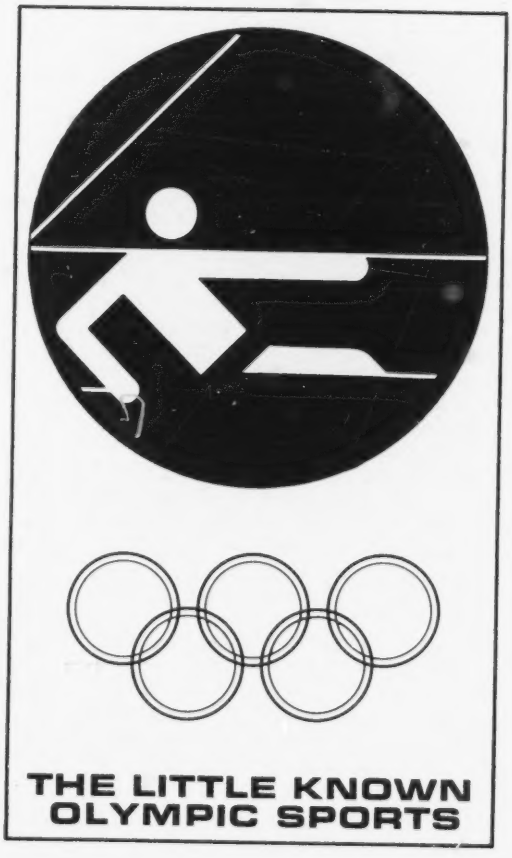
Final placings in the three-day competition are obtained by totaling all the faults or penalty points incurred throughout the different test phases and deducting from this total any bonus points gained in the steeplechase and cross-country sections. The competitor with the highest number of bonus points (or the lowest penalty score) is the winner. Team rankings are made on composite scores of each nation's trio of riders.

The individual and team tests in the jumping event consist of two rounds each over an obstacle course not exceeding 1000 meters in length, which includes 13 or 14 obstacles requiring 16 to 20 jumps or efforts. The required speed is 400 meters per minute, and for each added second in excess of the time allowed, ¼ point penalty is applied. There is no bonus for greater speeds. Penalties are also incurred for failure to clear any obstacle cleanly. The individual competition classification is reached by totaling the penalty points of each rider (obstacles and time) on the two rounds. Teams are classified in similar fashion in total for their three riders. The withdrawal or elimination of any team member during any of the two rounds involves the elimination of the whole team. □

PAUL H. SMART has been involved with Olympic activities for many years, both as competitor and as administrator. Mr. Smart was a gold medalist in the Yachting Division in the 1948 Olympics, managed the 1968 United States Olympic yachting team, and is presently the chairman of the Olympic Yachting Committee. From 1956 to 1968 he was in charge of all Olympic trials in yachting. Mr. Smart has been a member of the Board of Directors of the United States Olympic Committee and is past president of the United States Olympians. In addition to his Olympic work, Mr. Smart was manager of the 1963 and 1967 United States Pan-American yachting teams and has been the Race Committee chairman for numerous national and international events. He has served for 13 years as the president of the International Star Class of the Yacht Racing Association. Mr. Smart graduated from Harvard in 1914 with an A.B. Degree and in 1917 received his L.L.B. from Harvard Law School. He has also studied at New College of Oxford University and the Inns of Court in London.

Yachting

"The sport of yachting means man against man and boat against boat, racing in the same area under the same conditions of wind and waves."



There are many facets to yachting, if we adhere to the broad definition of the term, just as there are thousands of boats called "yachts." But by disregarding the countless power boats, from the tiny outboards to the ocean-going palaces of the plutocrats, we cut down the field considerably. We can then further subdivide the remainder to leave only the sport of yachting—yacht racing, boat against boat, man against man—in short, competition.

There is no denying the competition in the struggle of man against the sea. But the sport of yachting means man against man and boat against boat in the same area—ocean, lake, river, or puddle—at the same time, and under the same conditions of wind and waves. That is yacht racing. Of course, there is no prohibition against occasionally sailing for relaxation, but for the racing man that is a mere vacation. Racing becomes, if not a business, at least something more than an avocation. It becomes a way of life, a driving, time- and money-consuming obsession.

Yet yachting has tremendous compensations. It is a sport that lasts through life. There are other lifetime sports, but the yachtsman makes this challenge: At 50, 60, 70, and even 80, can you play the game in top competition? Can you beat the teenagers, the collegians, and occasionally even the champions? In the 1968 Olympics at Acapulco, a gold medal was won by a skipper in his mid-sixties.

Among other benefits are the lifelong and far-flung friendships forged. The excitement of two or three hours spent competing on the water is more than matched by the hearty camaraderie ashore in the inevitable post-mortems.

The origin of the yacht as a distinct type of vessel seems to have come in the early 17th century when the Dutch developed small, fast sailing vessels, called *jachts*, to transport important messages or people. Soon they were used for pleasure, and thus the term *jachting* developed. England's King Charles II is credited with building a flotilla of the jachts and racing them, beginning the Anglicized form of yachting.

In London in 1851, yacht races were planned for the first World's Fair. Since international competition was thought to be appropriate, an American yacht was invited to compete. The schooner "America" won the 500-guinea cup. Five years later, the cup was deeded to the New York Yacht Club, beginning an unprecedented quest for its capture. Challengers seeking the America's Cup, all unsuccessful, have included the British, Canadians, Scots, Irish, and Australians.

Ocean racing is another growing, dramatic, and fabulously expensive area of yachting. Boats are built with winning in mind. Top skippers recruit the most efficient, knowledgeable, and dedicated crews they can shanghai aboard. Races range from overnight affairs to the crossing of whole oceans and even solo voyages around the world. The growth of the midget ocean racing group has given this branch of yachting a new phase—smaller boats, lesser costs, fewer crew members, and yet blue water competition. They criss-cross the English Channel and dominate other areas; and they have even battered at the gates of the Olympics.

Yachting is very much a part of the Olympic Games, though it was not a part of the ancient games, nor was it included when Baron de Coubertin revived the games in 1896. But since the Olympics are the acme of amateur sport, and since yachting is solely an amateur sport today, its inclusion was inevitable. As yachting is not a spectator sport, but solely a participant sport, with no gate receipts, there is no danger that it will be other than amateur. In yachting, the amateur is defined as one who has never been paid to race sailboats. Paid professionals long ago passed from the scene as helmsmen; they can never return. People today own boats because they want to sail them themselves. As far as yachting is concerned, the Olympics quite properly accept the definition used by the sport, though some might argue that the Olympic definition of amateurism is more stringent and conceivably could be invoked against some yachtsmen.

In the second Olympiad of modern times, in Paris in 1900, yachting was included; but not until 1928 did the United States participate. In 1932 the U.S. was at Los Angeles in force and garnered the first of a long string of Olympic gold medals. The Star sailed by Gilbert Gray of New Orleans won, as did the Eight Meter out of Los Angeles skippered by Owen Churchill.

"Because yachting is solely an amateur sport today, it is inevitable that it be included in the Olympic Games, the acme of amateur sport."

In the long history of the Stars as an Olympic class—longer than any other single class—the U.S.A. has been predominant. In 1948 in England, in 1956 in Australia, and in 1968 in Mexico, the gold medal in the Star Class went to the United States. Those years plus 1932 make a record of four wins out of eight Olympics, or exactly fifty percent of the time. No other country has ever won twice; the gold medal went to Germany in 1936, Italy in 1952, Russia in 1960, and the Bahamas in 1964. When not winning the gold, the U.S.A. has twice garnered silver medals and once the bronze. In only a single Olympics, in 1936, were we shut out in this class.

In other constantly changing classes the United States has emerged consistently on top. Our best year was 1948, with two gold, one silver, and a bronze, out of five classes. Again in 1952 we had two gold and one silver—almost as good a record. A most unusual performance occurred in Tokyo in 1964 when we won a medal in every class in competition, but not one of them gold. This has never been done by any other country. Olympic yachting is, however, not the monopoly of any one country. The widespread growth of yachting around the world, and the fierce competition engendered by the proliferating one-design classes produce champions in far-flung places.

At Acapulco, in the Mexico 1968 Games, the U.S.A. again approached its former heights, winning two gold medals. One was in the Dragon Class, where we never before had done better than third. This was accomplished by a hard-hitting, dedicated group from New Orleans, with Buddy Friedrichs as skipper, and Barton Jahncke and Click Shreck as his crew. The U.S. won its fourth gold medal in the Star Class when Lowell North of San Diego teamed up with Peter Barrett as his crew. Both men had previously won Olympic medals in other classes, North a bronze in the Dragons, and Barrett a silver in the Finns in Japan in 1964.

All these wins showed a clear-cut supremacy for the United States over the 41 other nations competing in yachting. England, Russia, and Sweden each took one gold. The win of Lowell North was particularly satisfying to him, as among his competitors was the great Dane, Paul Elvstrom, universally recognized as the greatest skipper of all time. In the two preceding years Elvstrom had won the Star Worlds, with Lowell North in each instance just behind him.

The Olympic Games have an aura of their own. Nothing approaches them for their tense atmosphere. In all other events, the yachtsman represents himself or at most his club. The America's Cup competition shares this tension in a measure because there, too, it is one country against another—but only one other. But in the Olympics he is against the world.

The United States has been predominant in the long history of the Stars as an Olympic class.

It is natural to turn from the part that yachting plays in the Olympic Games to the hard core of today's competition—the multitude of one-design classes which have become increasingly popular all over the world. From these one-design classes, the Olympic Committee picks those which it designates for this preeminent world's competition.

The object of the Olympics has always been to crown with the wreath of wild olives (medals now substituted) the world's top performers in each sport. Yet no competitor can possibly be allowed to have superior equipment! Therefore, yachting is limited as much as possible to these one-design classes. But which class? It would take a Solomon to answer that satisfactorily, but some criteria are obvious. They must be those most generally in use around the world, responsive to proper handling, and not so expensive as to prohibit their use in the smaller or less affluent countries. In other words, the classes must be fairly representative of the several categories of small boat racing and yet appealing to the top experts.

The choice of design classes has changed in the Olympics over the years. In the next Olympics there will be two new classes, new to the Olympics and new themselves. The allocation now is for four keel boats and only two center-boarders. This allocation belies the preponderance, in today's yachting, of center-boarders over the substantial number of keel classes. Compromise is, of course, inevitable, but does not satisfy everyone—or perhaps anyone.

It is essential that there be some tolerance, or allowable discrepancies, in building even these one-design classes. These differences are kept to a reasonable minimum. No two boats anywhere in the world are exactly alike. Yacht builders, competent though they are, cannot create perfection. The strength of the one-design classes is partly due to the approximate equality of equipment, which in turn is due to the strength of the organization controlling the class. The tremendous competition engendered in all parts of the world, and the facility of transporting these boats to the areas of the hottest competition, whether it be near or far, at home or in foreign climes, adds to their popularity.

These classes form the basis for national and international championships, intercollegiate and women's contests, junior races, and by far the most popular weekend racing at the thousands of yacht clubs the world over. These myriad yacht clubs are the *sine qua non* of yachting. They supply the mooring and launching facilities and the race committees to run the races; they set out the marks of the courses, tally the results, hold the protests, and supply the bars for the post-mortems, so essential a part of one-design racing.

The plague of one-design racing is the plethora of classes. At the average club races there are far too many with two, three, four, or five in a class. How much better if there were fewer classes and more contestants in each! This is a recognized problem with no obvious solution, as long as the boat-building industry, for its own reasons, continues to foist on the sport a crop of new, very similar designs each year. Since Olympic designation can give a class a tremendous impetus, those in a decision-making position might well give more serious consideration to the yachtman's desire not to be forced to change classes too frequently merely because new designs or models are brought out. They should harken to the cry of distressed

Star

Finn-Monotype

Dragon

Soling

Flying Dutchman

Photos by Joe Crampes

yachtsmen and not promote the design of new classes, with the inevitable inference that they will be "modern" and thus desirable.

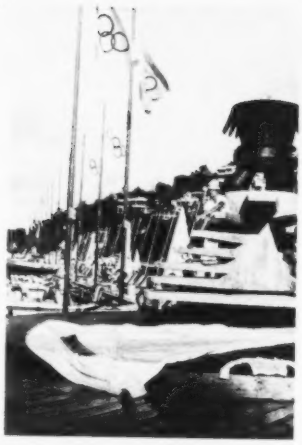
If the powers that be call for new design contests, which they sponsor *and judge,* how can they in fairness also decide which model to choose for Olympic competition? If they do not select the winning design, it seems an admission that the contest did not serve its purpose. If they do select it, the hue and cry of paternalism goes up. Legally one cannot be both protagonist and jury, and ethically one cannot be inextricably involved on one side and still be the arbiter as well.

Who are the powers that be in yachting? Every sport must have some recognized governing body. For yachting it has become the International Yacht Racing Union (IYRU), based and organized (some think, controlled) in London. It appears to be a self-perpetuating body, largely British in origin, though the IYRU is gradually shedding these characteristics. For years the preponderance of its membership was heavily weighted toward the British Channel and the North and Baltic Seas, while Olympic yachting, the America's Cup, and other factors were conveniently ignored. Now yachting is a worldwide sport, dominated by the huge classes of little boats, out of which have come many modern ideas, theories, practices, developments, and unquestionably most of the top skippers in the world, including the America's Cup helmsmen.

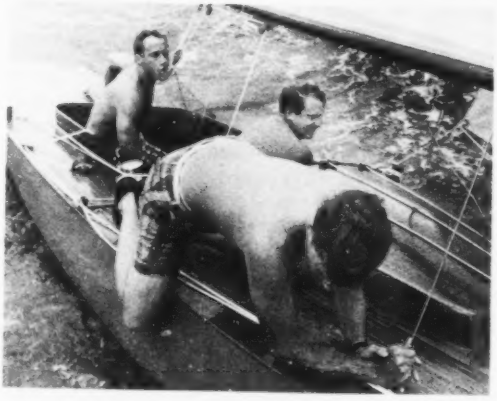
The greatest service of the IYRU to yachting is the promulgation, change, and amendment of the racing rules. This alone justifies its existence, and here unstinted praise is in order. Class rules apply even before going on the water. They certify the legitimacy, identification, and safety equipment of the competitors. Once racing, the rules of the IYRU govern and control all important situations and all rights in respect to the opponents. These rules do not come from any public legislative or regulatory authority but from the recognized authority of the sport's governing body. Though a number of nations have their own separate organizations, like the North American Yacht Racing Union, now that yachting has gone wholeheartedly international it is essential that there be a world body in general control.

The future is bright, though we are tending toward a split personality. On one hand there will be a vast increase in the number of small craft, which are easy to maintain, inexpensive, simple to trail and transport, require at most one crew, and are capable of racing on any dammed up river or reservoir or ocean. On the other hand, there is a surprising resurgence of the big semi-cruising craft, which can also be used as racing craft. These are vast, expensive machines, needing the oceans or the Great Lakes, and a lot of dedicated fanatics to drive them day and night, for days on end.

Yachting has some unusual characteristics. It is a mental as well as a physical sport; it is for the young and the old, for women as well as men (some women have even been in the Olympics). It is a sport in which it is legitimate to do all the harm to a competitor the rules allow—but it offers great possibilities of fraternizing even in its most serious and competitive aspects. There are virtually no referees on the course. Abiding by the rules is part of one's honor as a gentleman. □



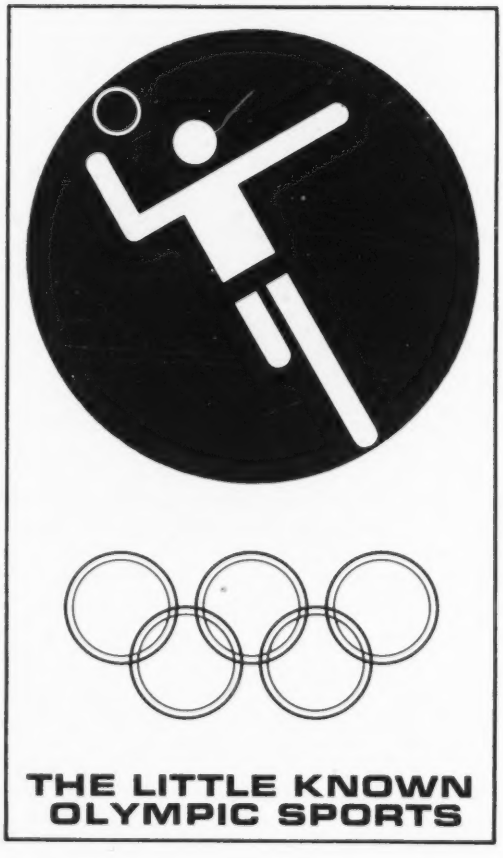
The Olympic Games have an aura all their own; no other competition approaches them for tenseness and excitement. Scenes from the 1968 yachting competition at Acapulco capture the tension and exertion, the beauty and ceremony of the Olympic Games.



HARVEY M. JESSUP, chairman of the Department of Physical Education at Tulane University, wrote this article on team handball in collaboration with SARA D. DAVIS, who is completing work for her doctorate degree at Tulane.

Team Handball

"Team handball is continuous and fast, but bears little resemblance to the game we call handball; it is more like soccer played with the hands."



Team handball, which this year has been added to the Olympics on a permanent basis, is a popular European sport—second only to soccer—which is rapidly creating similar enthusiasm in the United States. Team handball is played in more than 40 nations and its participants number around three million.

"Team handball" is something of a misnomer, since the sport little resembles the indoor activity we call handball. The game bears more similarity to soccer; the major distinction is that team handball is played with the hands and with a smaller (7") ball.

At the beginning of the 20th century, team handball was played in Europe on soccer fields with a soccer ball and eleven men on a team. Shortly before World War II the Scandinavians adapted the game for indoor play by reducing the size of the field, the ball, and the teams.

Team handball was introduced into the United States around 1959 by a group of European immigrants living in the New York-New Jersey area, which is still the center of handball activity in this country. In 1963, the U.S. National Team, composed mostly of European immigrants, went to Switzerland for the Out-Door World Championships. Since then, U.S. teams have also competed in the 1964 World Championship in Czechoslavakia and the 1970 championship in France.

In the ten years it has taken for team handball to catch on in the United States, several areas of participation have developed. In addition to the Metropolitan League which is active in the New York-New Jersey area, the U.S. Army plays on an intramural level and conducts regional tournaments for active Army personnel and their dependents. Team handball has been added to the Presidential Physical Fitness and Sports Award Program. The Explorer Scouts sent three teams from the July 1972 Explorer Olympics to the World Olympic Student Camp in Munich. School systems in Columbia, South Carolina, San Antonio, and Tacoma have introduced the game into their athletic programs, and others have shown interest in starting a team handball program. Several colleges throughout the country also play on an intramural basis.

In 1972, for the first time, the United States Olympic handball team qualified for participation in the Olympics. In November and December 1971 the team toured Europe, where they lost their first four games, then rallied to win the final four, which included victories over the Austrian National team, a Belgian team, the Paris North Allstars, and the powerful Paris Allstars.

The experience gained in Europe stood them in good stead for the February 1972 competition in Elkhart, Indiana, which determined the Western Hemisphere team eligible for the 1972 Summer Olympics in Munich. The U.S. team beat Mexico (33-11), Argentina (22-13), and Canada (15-11), to emerge as winner for this hemisphere.

Team handball involves a series of skills that are compatible with those of several popular American sports. The techniques of basketball, hockey, water polo, volleyball, baseball, and football are all brought into play. A team is composed of six players and a goalie, plus three substitutes. The offense uses give-and-go basketball tactics, dribbling, running, and passing. The opposition employs either a zone or man-to-man defense. The goalie defends a net slightly larger than a hockey goal, and a score is made when an offensive player throws the ball past the goalie and into the net.

Play is continuous and fast, and because body contact is permitted, team handball is occasionally a rough game. A player is allowed only three steps while holding the ball, but there is no limit on the distance he can dribble. When

he stops he must pass off in three seconds. He may not kick the ball.

The game is easy to learn but hard to perfect because there are so many skills to be integrated into team play. A player must be in top physical condition to play the entire game; play is continuous for two 30-minute halves with a short 10-minute break in between. For high school contests a half is 25 minutes.

Team handball may be played either inside on a court or outside on a field. In Europe it is played both places all year round. American high schools that have adopted the game have fall and winter schedules and play both indoors and outdoors.

The playing court is rectangular with average dimensions of 100 to 166 feet in length and 50 to 83 feet in width. For international matches the dimensions are 126 to 147 feet in length and 60 to 73 feet in width. A court may easily be made on a gym floor, a soccer field, or a football field.

Necessary equipment includes two goals with nets and a leather-covered ball seven inches in diameter. The ball used for men over 14 years old weighs between 15 and 17 ounces. For women and for juveniles under 14 years, the ball is slightly smaller and weighs between 11½ and 14 ounces.

Every game should be conducted by a referee, assisted by a scorer, a timekeeper, and two goal-linesmen.

Organized team handball in the United States comes under the auspices of the United States Team Handball Federation (USTHF), headquartered at 10 Nottingham Road, Short Hills, New Jersey 07078. Peter Buehning, the U.S. Olympic team coach, is president of the organization. USTHF publishes a newsletter six times yearly with news of handball activities.

Guidelines for membership in USTHF provide for central coordination while encouraging a large degree of local and regional independence and initiative. State team handball associations function as subdivisions of the USTHF, providing that the activity and the number of team handball clubs and players in a given state justify such an association.

State associations must be approved by the USTHF Congress, but temporary aproval can be granted by the executive committee upon recommendation of the USTHF membership committee. An application for membership should be accompanied by a petition from the clubs, schools, colleges, military organizations, or other groups desiring to join; the proposed constitution and bylaws; the proposed slate of officers; a description of existing team handball activity within the state; and plans for the future.

State organizations are responsible for organizing competition and the development efforts for team handball within their states. All individual players, officials, referees, instructors, and associate organizations register directly with the USTHF.

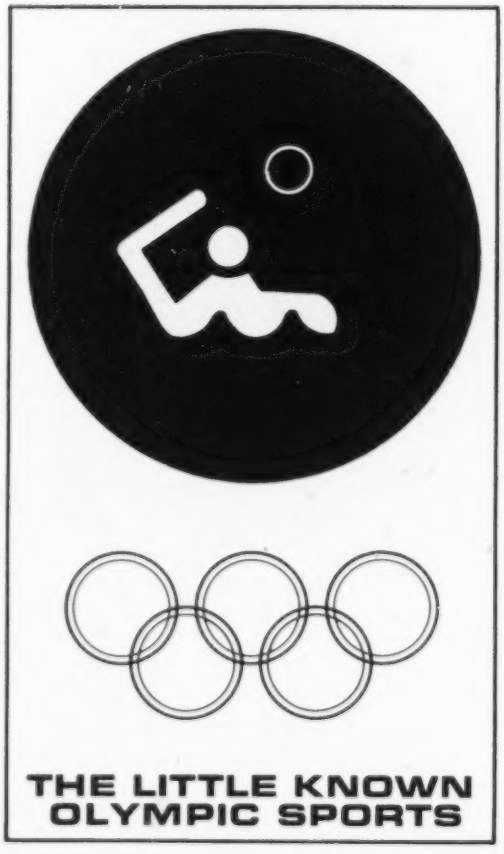
Those interested in playing in a league can contact USTHF, which will help find competition. The organization is anxious to help start and train additional teams and to facilitate their entry into league play and tournaments.

In 1971, a year of spectacular development for team handball in the United States, activity spread from the Northeast, where it had centered, to all sections of the country. Indications are that competition at the local level, combined with the interest generated by U.S. participation in team handball at the Olympics, will provide impetus for widespread enjoyment of this exciting sport. □

ROBERT H. HELMICK, a practicing attorney in Des Moines, Iowa, is chairman of the United States Olympic Water Polo Sport Committee and of the National AAU Water Polo Committee. He is manager of the 1972 Olympic Water Polo Team. In 1970 and 1971 he arranged and managed trips of the National USA Water Polo Team to Eastern Europe and Russia. From 1961 to 1970 he played and then coached for the Des Moines YMCA team and Drake University Water Polo Club, winning several YMCA National Championships. For three years he headed the American Swimming Coaches Association All-American High School Water Polo Selection Committee. His Column "Water Polo Shots" appears monthly in Swimming World *magazine.*

Water Polo

"The remembered mayhem of softball water polo may be responsible for the refusal of some to initiate a program in their schools; that earlier version of the game has been outlawed, but its reputation still lingers."



Water polo had its beginnings in England during the 1860s as a gala spectator amusement known as "water derbies." In these events the players mounted floating barrels fashioned with horse heads and fancy tails. They jostled and raced, playing the ball with a wooden stick, to the delight of the spectators. Through this amusement the term "water polo" was first coined, although the real competitive game did not emerge until the 1870s in England when rules for water football, aquatic handball, water basketball, and aquatic polo were first published. The first record of the game being played in the United States is in the 1880s, when the Boston Athletic Club, the Knickerbocker Club of New York, and the New York Athletic Club recorded championship titles. During the same period the game spread to Europe and was soon being played throughout Germany, France, and Hungary.

The game continued to gain favor in Europe after it was placed in the 1900 Olympics at Paris. In the early 1900s the international game became virtually what it is today, except for a few major changes adopted in the 1950s and 1960s. It was played with a hard ball and relied greatly upon swimming and passing.

However, the rules were modified in the United States and the game turned into softball water polo, in which the ball was slightly deflated. Unlike the European game, the modified rules allowed taking the ball and wrestling under water. A goal was not scored by shooting at a soccer style goal, but by placing the ball against a small outlined area at the end of the pool. This became one of the roughest, most brutal sports to be officially sanctioned and played in the United States.

This rough style gained only sufficient popularity to prevent the growth of the international rules in the United States. By action of the USA host, the 1904 Olympics in St. Louis included only softball water polo. All other nations boycotted water polo in these games; the only entries were United States clubs. Softball water polo was never again played in the Olympics, although international water polo has been a part of each Olympics since.

The AAU banned softball water polo in 1910, but this did not abolish the playing of the sport. Through the 1930s softball water polo and other variants were played in United States clubs and colleges. Fortunately, softball water polo completely died out in the middle 1930s after the remaining college leagues, including eastern conferences and the Big Ten, dropped the sport on the grounds that it was detrimental to swimming. But the reputation of this style has unjustly stayed with the modern version, frequently making it difficult to establish programs where athletic directors and swimming coaches recall the heyday of softball water polo mayhem.

Since World War II water polo has enjoyed a continuous growth in popularity from just a handful of AAU clubs and colleges playing in the late 1940s to over a thousand teams fielded in 1970. The most extensive growth of the sport has been in Southern California, where 130 of the high schools in the Southern Section of the California Interscholastic Federation field varsity water polo teams. The number of universities sponsoring teams has so increased throughout the nation that the NCAA began an annual championship in 1969.

The recent growth of the sport has been due to the acceptance of the international rules over the old American game, the further modification of the international rules into the interscholastic rules which place even more emphasis on swimming and controlling body contact, and the aquatic community's acceptance of water polo as a positive, integral part of a swimming program, complementing excellence in competitive swimming.

"Water derbies in England in the 1860s were a gala amusement in which players mounted floating barrels with horse heads and fancy tails; they jostled and raced, playing the ball with a wooden stick."

Today university leagues are found throughout the United States—two on the East Coast, a Midwestern league, a Rocky Mountain league, and numerous leagues in California in both university and junior college competition. Regular high school competitive water polo is now played in Pennsylvania, Florida, Ohio, Chicago, St. Louis, Iowa, Kansas, and California. The YMCA has conducted national invitational championships in the sport since 1963 and instituted an age group national championship in 1969. The AAU conducts competition and holds national championships in both men's and women's water polo as well as in two age divisions: 15 and under and 16 and 17 years. All 13 AAU regions currently conduct water polo competition. In 1962 an All-American high school water polo team was selected for the first time. This proved so popular that the American Swimming Coaches Association began sponsoring the selections in 1964 and has annually announced five All-American teams every year since. The NCAA, AAU, and YMCA each annually publish an All-American team.

For a country with the most spectacular swimmers and swimming facilities, the United States has had a most unspectacular record in water polo in the Olympics. In the earlier years this was credited to the fact that the United States was not playing the international game at home and was, therefore, unprepared for the hardball brand of water polo in the Olympics. In recent Olympics the United States has done better, although it has not yet reached a medaling position in modern water polo. The United States did win a gold medal in the sport in 1904, but this is hardly to the credit of the United States forces since only United States teams were vying for the championship honors.

The United States placed fourth in the 1952 Olympics, fifth in 1956, seventh in 1960, unranked in 1964, and fifth in 1968. The Olympic medals in the sport have been monopolized by Hungary and Yugoslavia, with Italy and Russia close behind. In the 1968 Olympics in Mexico City the United States lost only twice, once to Hungary and once to Russia, and for the first time was credited as being a world water polo power. The 1968 Olympics were won by Yugoslavia, followed by Russia, Hungary, Italy, and the United States.

The United States Olympic Committee has pegged water polo as one of the sports in which the United States is at the threshold of being a medal winner. Through the auspices of USOC developmental grants in the last few years, the United States has engaged in an ambitious program of annually sending national teams to Europe to engage in top-flight international competition. Through this program the United States water polo players have gained the respect of their European counterparts. The United States teams are characterized by their youth and speed compared to the Europeans older (average age about 26) but more experienced squads. As in other sports, the United States is handicapped in not being able to maintain and train a national team in one location on a year-round basis. As a result, top players are lost in the prime of their careers as they leave colleges and military service to devote their time to making a livelihood. However, the United States now stands a better chance than at any other time in its water polo history to medal in the 1972 Olympics in Munich.

Water polo is played in a competitive size swimming pool with two hockey or soccer style goals floating or secured at each end. Seven men constitute a team, whose object is to move a ball down court and to shoot past the defending goalie into the goal to score. Water polo is most analogous to a combination of hockey and basketball.

At the start of the game or of each quarter, possession of the ball is gained by the opposing teams sprinting from their respective ends of the pool to the ball which is placed in the center of the field of play. Once secured, the ball is moved down court by passing and "dribbling" (swimming crawl stroke with the ball between the arms and riding in front of the bow wave created by the raised head). There are various offensive styles including patterns and

set plays, but commonly the team attempts to open up a man free of his guard in front of the goal for a split second to receive a pass and shoot.

Although the terms "forwards" and "guards" are still commonly employed, in modern water polo in the United States all six field players are called upon to play the entire pool and the full court press is generally used. Rarely does any member of the offensive team stay back in a defensive position.

No player is allowed to hold, sink, or pull back a player not holding the ball and no player is allowed to push off or strike another player.

Field players may only touch the ball with one hand at a time and may not use the bottom or sides of the pool. Goalies are exempted from both of these limitations. A player may not interfere with the free limb movement of another player unless the defended player has his hand on the ball. As a result, when closely guarded, a player will not maintain contact with the ball but will keep his back to his opponent with the ball floating freely in front of him. Passes are executed quickly by lifting the ball from the water and throwing. Under this rule it is an obvious advantage for a player to be moving away from his guard in preparing to pass, as the guard may not maintain contact until the ball is picked up, the man in possession of the ball generally has a good one- or two-stroke advantage. For this reason the game has become much faster in recent years with constant swimming and driving at the goal. The type of physical contact occurring in front of the goal can be compared to collegiate and professional basketball where, although the rules prohibit holding and defined physical contact, the play is nevertheless physical.

An added difficulty with water polo is that 90% of a player's body is submerged. In the churning water in front of the goal, with several players driving and hooking at the same time with guards on either side, there is great latitude for discretion on the part of the referees. For this reason it is a difficult sport to referee, involving a great deal of knowledge of the practical aspects of playing (and faking) and an intuitive sense of what is going on under the water.

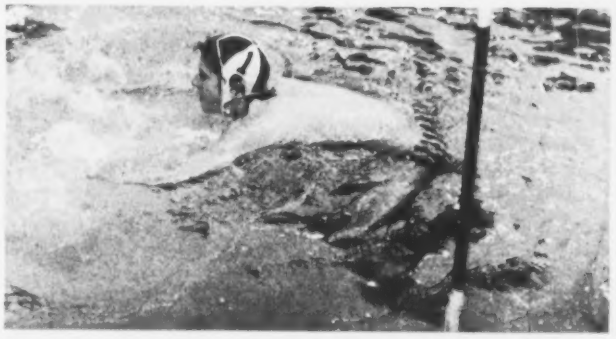
A water polo player must develop great strength and speed in the water. Competitive swimming and swimming drills constitute a major part of the conditioning of a water polo player, but all swimming must be done with the head up so the player can constantly keep an eye on the ball and the positioning of the other players in the pool.

In addition to basic swimming skills, a player must be able to readily spin in either direction, hook, or reverse his swimming direction with the least possible loss of speed or momentum. The player must learn to swim and carry out these maneuvers with the ball as readily as without it. Players must be able to pass the ball from any position with either hand with pinpoint accuracy. Most scores are initiated with a pass from a moving player to the free outstretched arm of another player moving in front of the goal.

A major advantage of the sport of water polo is the fact that it requires a minimum of equipment. In addition to the pool, all that is needed are goals, water polo caps, a regulation ball, and referee stick.

The rules are liberal with regard to the size of the playing field, setting a maximum and minimum length, a maximum and minimum width, and a maximum depth. Almost any pool that can be used for competitive swimming may

Dribbling the ball



A goalie takes a position flat on the water, supported by his arms and legs

The goalie "hinges" up at his waist and out of the water to make a block

The referee indicates the team fouled by displaying the appropriately colored flag on the referee stick.

also be used for water polo. The rules allow playing in shallow water as well as the preferred deep water. Some major club and collegiate varsity teams have trained only in pools with shallow ends. The rules have been drafted in this broad manner so that most any competitive pool will be suitable for official games. However, for championship events an all-deep pool should be used (no less than 6½ feet) and the length and width of the pool should be the maximum dimensions—30 meters by 20 meters.

Water polo goals, which are similar to hockey or soccer goals, are the only substantial piece of specialized equipment necessary. The goals are ten feet wide and three feet high from water surface to top. They should be no less than 18 inches deep and made in the form of a cage with a slope back. When the water is 5 feet deep or less the top of the goal must be 8 feet from the bottom of the pool. Therefore, in the customary 3½ foot shallow end of an indoor pool the shallow end goal is 4½ feet high from water surface to top while the deep end goal is 3 feet high. There are suppliers who sell preconstructed goals, although it is customary for goals to be made for each particular pool by the maintenance staff and constructed in such a manner that they may be readily put in place or removed.

A water polo ball is made specifically for the sport in compliance with the international and collegiate water polo rules. No ball manufactured for a different sport can be satisfactorily adapted to the game. The surface of a water polo ball has a rough texture to give it a better feel while wet. The ball must be yellow, inflated to 15 pounds, approximately 27 to 28 inches in circumference, and weighing 14 to 16 ounces.

Team identification is maintained through the use of two different colored sets of caps. One set is white and the other (home team) may be of any other color contrasting with the ball and the white caps. The caps are numbered: white 1 to 21, and home 22 upward. In international competition the caps are always white and blue-black and each set is numbered 1 through 11, the maximum number of players and substitutes. Plastic earguards may be snapped into the caps to completely eliminate the last remaining injury peculiar to the sport: broken ear drums. Ear guards are not required but are strongly recommended by any experienced coach.

The only other specialized equipment is a referee stick which consists of two flags corresponding to the cap colors, 12 inches square, mounted on each end of a 36-inch dowel. The stick is used by the referee to indicate the team fouled.

The international representative of the United States in the sport of water polo is the Amateur Athletic Union (AAU). Domestically, the AAU sponsors 10 national championships annually: two national tournaments in both men's and women's competition, a national tournament for 15 and under competition in both boys and girls, and two junior national championships in both men's and women's water polo. Most of the 13 AAU regions sponsor a regional championship at some level, and numerous state and association championships are conducted each year. Information concerning the AAU water polo program may be obtained from the Aquatics Administrator, AAU House, 3400 West 86th Street, Indianapolis, Indiana 46268, or from Robert H. Helmick, Olympic and AAU Water Polo Chairman, 601 Grand Avenue, Des Moines, Iowa 50309.

The National Collegiate Athletic Association national championships in water polo which began in 1969 have resulted in an excellent promotion of the sport among the NCAA universities. Information concerning the NCAA

water polo program may be obtained from the NCAA administrative offices, 1221 Baltimore, Kansas City, Missouri 64105, or from rules chairman James Schultz, Coach, Long Beach State College, 12 Sweetbay Road, Portuguese Bend, California 90274.

The National Association of Intercollegiate Athletics has conducted a national championship since 1968; information may be obtained from water polo committee chairman Paul Hutinger, Western Illinois University, Macomb, Illinois 61455.

Junior college and high school competition centers in California, where in the Southern Section of the CIF over 130 high schools field varsity water polo teams. Information concerning this program can be obtained from J. Kenneth Fagans, Commissioner of Athletics, California Interscholastic Federation, Southern Section, 11011 Artesia Boulevard, Artesia, California 90701.

Two basic sets of water polo rules are used in the world today: the international rules promulgated by the Fédération Internationale de Natation Amateur, and United States interscholastic rules which are used in fairly similar forms for NCAA, junior college, and other collegiate and high school competition. It is generally felt that the international rules provide for a rougher form of competition, although certain changes in these rules during the last eight years have eliminated the substance of this difference. In the opinion of this author, the rougher nature of the international game should be attributed more to the attitude of the referees than to the substantive difference beween the rules.

The United States interscholastic rules are an offshoot of the 1948 South American rule experiment, when the United States and certain South American countries proposed substantive changes to the FINA rules which were utilized in American competition. These proposals were subsequently rejected by FINA, but were adopted for United States interscholastic competition. In order to prepare the United States national teams for international competition, club competition under the jurisdiction of AAU has been conducted under international rules, although these same players and coaches play under the interscholastic rules the other nine months of the year.

The major differences between these sets of rules are as follows:

1. Two referees are required in the interscholastic rules whereas only one referee may be used in international rules. The Europeans have developed an attitude that the referee acts as a conductor of the match and it would be inconsistent with this philosophy to have two "conductors" with different philosophies arbitrating a single game. This is a direct contradiction with the feeling of the athletic community in the United States, where a referee is thought to be more a strict implementer of the statement of the rules. As the United States considers that there is little room for interpretation in water polo rules, it is concluded that two referees are better than one, in that more areas of the field of competition can be covered at the same time. Much of the philosophy of basketball refereeing has been carried into the refereeing of United States water polo. The AAU rules now require two referees for all competition except the national tournament from which a national team is selected to play international matches. A different playing style, different technique, and virtually a different game is played under one referee from that played under two referees.

2. A faster game tempo is the hallmark of the interscholastic rules. Under international rules after each score the teams line up in the respective halves of the court

Water Polo Terminology

Ball side—The player's side in the direction of the ball, and the side from which a pass would come to the player.
Center forward—Historically, a specialist who stayed in a stationary position on the two or three yard line, in the center of the goal, who took strong hole shots. Now refers to that position in front of the goal, which any player may assume.
Dribble—Move the ball by swimming freestyle with the ball riding in the water a few inches in front of the player's head, between the stroking arms. The ball is propelled by the bow wave created by the player's raised head.
Dry pass—A pass received in the air, as distinguished from a wet pass thrown into the water in front of the receiver.
Eggbeater kick—A specialized kick used extensively by the goalie and by all players when treading water to maintain a high position in the water. It is similar to the whip kick (a short, quick frog kick), but the legs move in opposition so that constant pressure is applied to the hips.
Face off—A neutral throw used when opposing players foul simultaneously. The referee restarts the ball by throwing it into the water between the two players, who are facing each other several yards apart.
Feeding the hole—Passing to the hole man who is strategically placed for quick, strong shots.
Forty-five second rule—A team must shoot within 45 seconds of gaining possession of the ball, or forfeit possession.
Free pass—A pass given to a member of a team which has been fouled, or which has gained possession of the ball after it has gone out of bounds. This pass may not be interfered with by a defending player. A player having a free pass may not shoot directly at the goal, but must pass to another member of his team.
Goal throw—the free pass given a goalie after the ball has gone out of bounds across the goal line, having been last touched by an offensive player.
Hole man—A center forward; an offensive player stationed just outside the two-yard line in front of the goal being attacked.
Inside water—An area between a defending player and his goal.
Major foul—In international rules, the foul of holding, sinking, pushing, or a minor foul inside the four-meter line which prevents a goal from being scored; the penalty is a one-minute eviction. In interscholastic rules, endangering a person by attacking, striking, or kicking, refusing to obey the referee, or interfering with free throws or penalty shots; the penalty is permanent banishment from the game.
Man up—Said of a team after the opposing team loses a man on a one-minute eviction foul.
Penal foul—Generally, a foul for which the penalty is a free shot at the goal.
Penalty shot—A shot at the goal awarded to a fouled player after certain major or four-meter fouls. The shooter takes a position on the four-meter (yard) line and, upon the signal of the referee, must shoot the ball immediately and directly at the goal, with only the goalie defending.
Personal foul—The fouls of impeding or splashing—including holding, sinking, and pulling back—or the commission of a technical foul for the purpose of scoring or preventing the scoring of a goal. In interscholastic rules, five personal fouls result in permanent eviction of the fouling player.
Roundhouse—A scoop shot in which the shooter begins with his back to the goal, then spins around toward the goal with the ball in his outstretched arm.
Sprint off—The race to obtain possession of the ball at the beginning of each quarter; also called swim off.
Team foul—In interscholastic rules, the fouls—usually personal—accumulated by a team. After ten team fouls, the opposing team is awarded a penalty shot.

and the team scored upon may center the ball by passing from the center of the tank back to one of their players. From this position the play then commences toward the defended goal. Under interscholastic rules the game is restarted after a goal with the goalie scored upon passing the ball out of his cage to one of his teammates. The teams therefore continue to play with only a few second pause after every goal. This is better suited to highly conditioned swimmers as are found in the United States. The AAU rules for women's, age group, and junior olympic competition have also adopted the goalie restart, so it is only in men's AAU competition that the international restart is utilized.

3. The international rules provide for five-minute quarters. The interscholastic rules have varied the time considerably over the last several years and now provide for eight-minute quarters for collegiate championship competition. Times for lower levels of competition are generally six or seven minutes per quarter. In its one major departure from international rules, the AAU men's competition rules provide for seven-minute quarters. The United States has urged revision of the time of the international game. With the clock stopping for all fouls, scores, and time outs, a collegiate game lasts one to one and a half hours.

4. Penalties for fouls constitute a major area of philosophical difference between the international and interscholastic rules. It is undoubtedly this single area that has given the international game an unsavory reputation, whereas the USA interscholastic game has proved to be a clean, fast-moving contest. Under interscholastic rules a player is permanently removed from the game after five personal fouls, somewhat as in basketball. A substitute is permitted from the unlimited bench allowed under these rules. Under international rules a player may commit any number of minor personal fouls without accumulating any personal penalty. The only penalty is the granting of a free pass to the player who is fouled. This pass is not a shot at the goal, but a pass to another teammate who may be guarded. For a major personal foul (holding, sinking, or pulling back, or commiting a minor foul which prevents a goal from being scored) a player is evicted for one minute without substitution as in hockey. Only since 1968 has the FINA adopted a philosophy of evicting a player permanently for consistent fouling. After the Mexico City Olympics the FINA rules were revised to state that after three major fouls a player would be permanently evicted with a substitution allowed after the one-minute penalty expired. Under both interscholastic and international rules a penalty shot is given a fouled player for fouls committed in a penalty area in front of the goal which prevent a score from being made. The rules are technically somewhat different with respect to this penalty but are philosophically the same. Under both sets of rules a player may be permanently banished for "brutality," and under international rules no substitute is allowed for the banished player for the remainder of the game. The interscholastic rules have an additional concept further penalizing the commission of personal fouls. This rule was added to the interscholastic rules as an attempt to eliminate the advantage of a "long bench" and diversification of personal fouling.

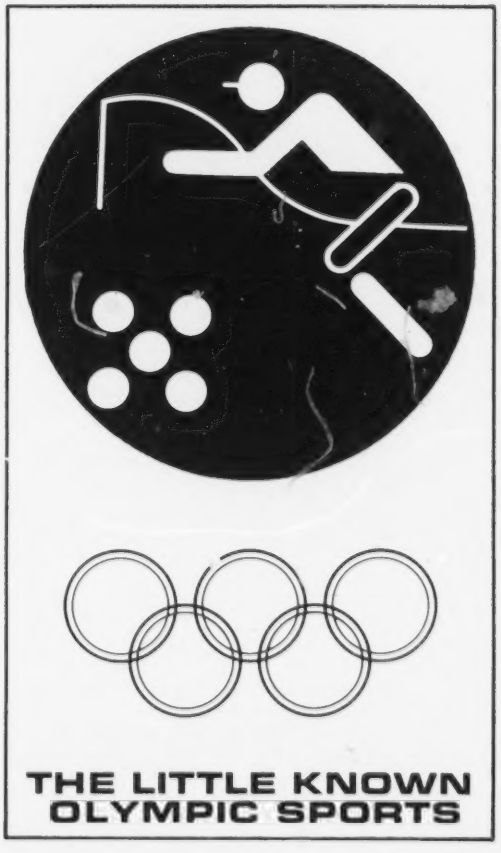
5. No timeouts are allowed under international rules; however, three timeouts per game are allowed under the interscholastic rules, and one timeout per half is allowed in AAU women's, age group, and junior olympic competition.

The international rules are used for the Olympics, Pan American Games, World Student Games, and all other international tournaments and games. AAU men's rules are virtually the same as international rules except for the duration of the quarter. The AAU women's, age group, and junior olympic rules are basically the international rules except for the length of quarters, use of two referees, restart of the game after a goal, and allowance of timeouts. The AAU rules are used for all club competition within the United States and are frequently used for men's YMCA competition. The interscholastic rules are used, with some minor differences, for the NCAA championships and competition, NAIA national championships and competition, junior college varsity competition, and interscholastic competition throughout the United States. These rules are also widely used for YMCA high school age competition, girls competition, both through the YMCA and AAU clubs, and AAU competition for high school boys. □

WILLIAM CLAYTON ROSE served with the U.S. Army from 1911 until his retirement as Major General in 1946. He first became associated with international athletics in 1922 as Army representative on the United States Olympic Association; thereafter, except in the war years 1941-46, he served variously as a vice president and member of the Board of Directors of USOC until 1971. He helped form the United States Modern Pentathlon Association and served as its president until 1971.

Pentathlon

"Modern pentathlon is based on the function of the military courier who, in the glorious Napoleonic days, was called on to deliver on the battlefield a message that could mean victory for his country."



After the 17th Olympic Games in ancient Greece, the warlike Spartans complained that the Olympics did not have an all-round athletic competition for warriors. As a result the pentathlon—a contest consisting of five events —was initiated in the 18th Olympics in 708 B.C.

The Pentathlon was designed solely for the soldier-athlete. It was an elimination contest in which all entrants first took part in a broad-jumping contest. Those who cleared a certain distance qualified for a second event, spear or javelin throwing. At that time, the spear or javelin was the major weapon of the Greek soldier, from private to general. Only the four best men in this military event qualified to participate in the third event, a sprint of one length of the stadium, or approximately 200 yards. One more athlete was eliminated here. The fourth challenge for the remaining contestants was the discus throw, and in this event one more contestant was eliminated. Then the two surviving athletes, in the grand finale of this grueling competition, wrestled each other to a finish. The winner was the Olympic pentathlon champion.

Soon after the modern Olympic Games were revived, the organizers felt that there was room for a dramatic event with a military background that would appeal to the armed forces of various nations of the world. The modern pentathlon was added to the Olympic program in 1912 and has been a regular event in the Olympic Games since that time. Some years ago, those nations interested in this sport organized an international union and started international competitions.

The modern pentathlon, which could be called the "military pentathlon," is based on the function of the military courier or aide-de-camp who in the glorious Napoleonic days and later, was often called upon to deliver on the battlefield a message or an order that might mean victory for his country. The courier, before the advent of radio, had to be able to ride a strange horse over obstacles of every kind. When his horse was exhausted or was shot from under him, he proceeded by running cross-country. If he came to a stream or river he swam across it. If he encountered an enemy, he shot his way through with his pistol; and then, at close quarters, he fought any remaining foes with his sword to deliver the message.

The modern pentathlon is little known to the major portion of the amateur athletic world. United States representatives in this event generally have been members of the armed forces or men whose interest was aroused while in the military service.

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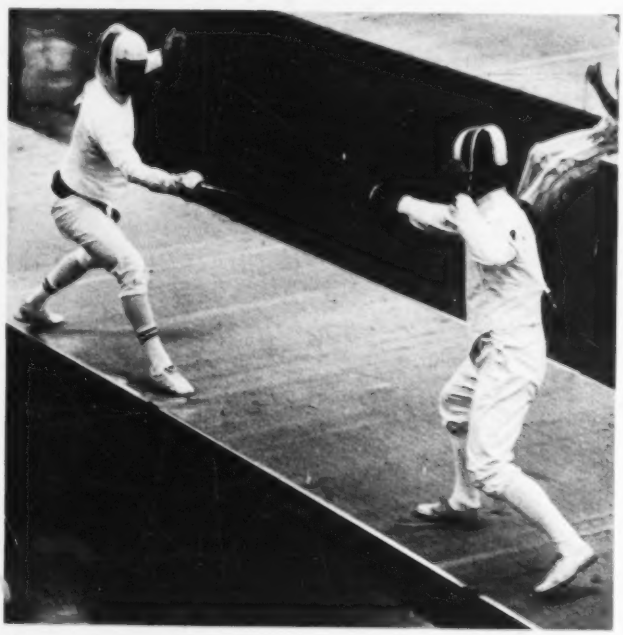

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(1) First Lieutenant Richard Michaels hurdles a jump at the pentathlon CISM trials at Fort Sam Houston in May 1970.

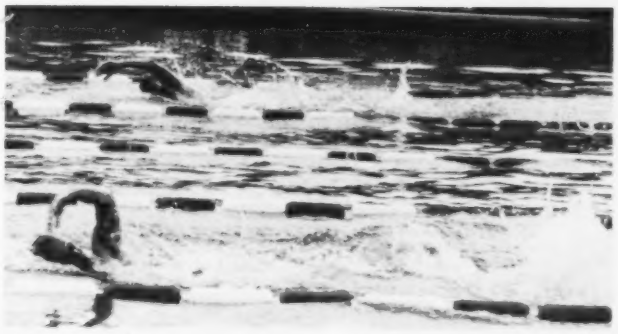
(2) Second Lieutenant Chuck Richards of the United States and Lieutenant Mauro Patricio Barrosa of Brazil meet in a fencing bout during the VI Modern Pentathlon CISM Championships at Fort Sam Houston in June 1969.

(3) Air Force Captain Loren Drum (left) during the shooting competition in the 1971 World Modern Pentathlon Championship at Fort Sam Houston.

(4) Army Captain Chuck Richards (foreground) swims against Rob Vonk of Holland in the 1971 World Modern Pentathlon Championship.

(5) Captain Loren Drum during the cross-country running event in the 1971 World Modern Pentathlon Championship.

3



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This competition is an exacting challenge for the all-around athlete, requiring great stamina and physical coordination. The first event of the five days is an individual horseback ride of 1,000 meters, against time and over 20 obstacles. On the second day is épée fencing, in which all competitors meet all others in one-touch bouts. Next is pistol shooting, with a practice string preceding four five-shot series at a standing silhouette target at a distance of 25 meters. The fourth event of the competitive series is a 300-meter swim, also against time. The final event is a 4,000-meter cross-country run. This, too, is individual and against time. The method of scoring is described later.

The first U.S. Olympic pentathlete, and certainly the most illustrious, was the late General George S. Patton who, with little preparation, was fifth in the Olympic Games at Stockholm in 1912. Following him were such outstanding military leaders as Generals Ernest Harmon, Aubrey S. Newman (former Chief of Staff of the Army's Continental Command and now retired), Peter C. Hains (now senior vice president of the U.S. Modern Pentathlon and Biathlon Association), R. W. Mayo, Charles F. Leonard, and A. D. Starbird.

The United States has never won either the individual or team competition in Olympic years. In 1932 at Los Angeles, R. W. Mayo was third; and in 1936 and 1948 respectively, Charles F. Leonard and George B. Moore were second. At Melbourne in 1958, after leading as a team for four days, the United States was outrun by the Russians and lost the gold medal by a narrow margin. Although an American has never won an Olympic or world pentathlon championship, Lieutenant Charles F. Leonard, Jr., of the American team did achieve one of the most memorable performances in the history of the Games. At Berlin in 1936, he fired a perfect score with the pistol—200 out of 200.

All events are scored against standards prescribed by the international governing body, the Union Internationale Pentathlon Moderne et Biathlon (UIPMB). Usually these standards are: for riding a 1,000-meter course (now the prescribed distance), an allowable time of 2 minutes, 10 seconds; 70% of the fencing bouts; 194 of a possible 200 in shooting; 3 minutes, 52 seconds in swimming; and 14 minutes, 15 seconds in running. Each competitor is awarded 1,000 points to equal the standard score or time, with points added or subtracted for exceeding or failing the fixed standard.

The point method of scoring was adopted in 1955. Prior to that time, results were determined by the competitors' combined placement in each event. The one having the lowest overall score was the winner, the next lowest second, and so on. Had the point score been used in 1936, Leonard of the United States would have won in Berlin instead of placing second to Handrick of Germany.

Since its introduction into the Olympic program, the Swedes have been the most frequent winners of the pentathlon. More recently, the Russians and Hungarians have predominated, although a Swede was again successful in Mexico in 1968. In recent years emphasis has been placed on this event by the Iron Curtain countries, especially Hungary, Russia, and East Germany.

Team championships were first included in 1952, and in all cases—in both Olympic and international competitions—the team winners have been either the Hungarians or the Russians. Unofficially, the United States was the first country to enter as a team in the Olympic Games in Berlin

in 1936, although no team competition was recognized prior to 1955.

The military services have provided most of our modern pentathlon team competitors. This source of men, while producing fine competitors, does not truly represent a cross-section of the nation's athletes. To remedy this situation, a national association was formed in 1959 to ensure wider interest and participation in the event. Though progress has been slow and often not too satisfactory, more and more success in the training of interested candidates—while undergraduates and through clubs such as the New York Athletic Club—has been achieved.

At a recent meeting of the association, three special committees were established to promote interest in discovering and developing greater numbers of pentathletes. It must be realized, however, that made-to-order candidates cannot be found. The nature of this competition precludes such prospects. Thus far we have been lucky to find an athlete skilled in two of the five events. Proficiency in three of the five events is practically unknown. The obvious alternative is to discover and interest likely candidates early in their athletic careers. This the association proposes to do, primarily through the three committees previously mentioned.

The question arises as to what type of athlete appears best suited for this demanding competition. First and foremost, he should be a well coordinated man, already proficient in one or more of the several events. For example, in schools or universities having fencing in their athletic program, a fencer—preferably one who specializes in épée and who also has some proficiency in swimming, running, or shooting—would be a likely candidate. If he also has some riding experience, all the better. On the other hand, good distance runners or swimmers merit serious attention, although a good swimmer develops into a good runner more readily than vice versa. At schools having pistol teams, a good pistol shot is a prospect not to be ignored.

As to physical types, the best prospect is the slim rather than the stocky individual, although some of the latter have done well in this event. Prospects weighing over 175 pounds have some handicap in the riding event because of weight. However, there is an exception to every rule; the winning rider in Melbourne, Lambert of the United States, weighed just over 180 pounds. Another difficulty in developing likely prospects is that good fencers are often high-strung and nervous, characteristics that do not help in shooting. Handicaps such as these can sometimes be overcome by long and constant practice.

Year by year, modern pentathlon competition increases in severity, both in the individual events and in the number of competitors. Particularly in fencing, swimming, and running have performances improved.

In fencing, American pentathletes suffer by comparison with Europeans because of the lack of high class competition. More than all other sports involved in the pentathlon, fencing requires competitive experience with highly skilled opponents. The association is conscious of the handicaps confronting it. Progress has been and is being made, but much remains to be done.

First it is proposed, through association efforts and particularly through a development committee recently established, to arouse greater interest in colleges, universities, and athletic culbs. While a few athletic centers afford training opportunities in all of the five events, early discovery of interested candidates skilled in one or more of the pentathlon sports should greatly facilitate improving their skills in others.

Practically all large schools and athletic clubs field running and swimming teams. A lesser, but significant, number have both pistol and fencing teams. A few engage in polo or rodeo, both of which are helpful in riding. The problem for the future, as seen by the association, is to attract the nation's interest and through this interest develop a larger number of potential performers, assist them in improving their skill in each of the several events, and provide the competition necessary to produce seasoned and capable representatives.

Modern pentathlon is now included as a prescribed sport in the Conseil Internationale du Sport Militaire (CISM). The U.S. Army, under the instruction of the Department of Defense, maintains a center at Fort Sam Houston, Texas, where military candidates can qualify for national and CISM competition. This establishment, set up prior to the inclusion of the pentathlon in CISM meets, has proved invaluable in developing good representatives for the United States. Competent coaches in all five events are available as needed. We would regularly be also rans without this essential assistance.

The training facilities at Fort Sam Houston can be used by civilian athletes at no expense except transportation to and from, and the cost of meals at an Army mess. Interested pentathletes should write to the Officer in Charge, U.S. Modern Pentathlon Training Center, Fort Sam Houston, Texas 78234; or to George M. Wilson, Secretary, U.S. Modern Pentathlon and Biathlon Association, 707 East Broad Street, Falls Church, Virginia 22046 for full information.

The Fort Sam Houston facility has proved valuable in another way. As a part of its development program, the United States Olympic Committee, in conjunction with the association, conducts an annual four-week clinic for some 25 carefully selected junior prospects. This clinic has developed a number of likely candidates, one of whom won the 1969 CISM championship after having entered the Army. We plan to continue this clinic, subject only to the availability of funds, since the association and the United States Olympic Committee meet all costs to the individual except transportation each way.

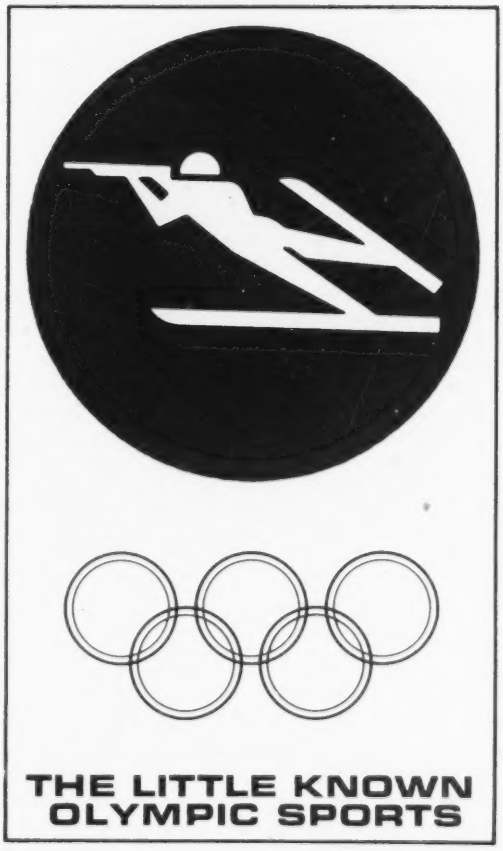
The association hopes that additional training centers of this type can be developed in the future, but lack of funds precludes this, unless other citizens like John E. duPont of Newtown Square, Pennsylvania, can help. Mr. duPont, himself an outstanding pentathlete, has developed a complete physical facility on his Foxcatcher Farm estate. By private arrangement the center can be used, but without coaches in each sport as at the Army center. The duPont facilities are excellent and were used in 1967 for the national championships.

We now have a small but promising group of both military and civilian pentathletes in training. Unfortunately, we are confronted by the fact that all too frequently a likely prospect finds it necessary to give up training because of the economic demands of civilian life. This occurs particularly with servicemen after they are no longer in uniform. But we progress and expect before long to be constant contenders for medals in international meetings in which we compete. □

GEORGE WILSON, secretary to the U.S. Modern Pentathlon and Biathlon Association (USMPBA), represents the USMPBA on the board of directors of the U.S. Olympic Committee. He is also chairman of the Olympic Biathlon Committee and a member of the Olympic Modern Pentathlon Committee. Mr. Wilson has been a major influence behind the development of biathlon in the United States during the past decade. In 1963 he coordinated the first national championship, and he has been primarily responsible for the continuing annual competition. He has been involved in the broadening of civilian biathlon activities and has made a concerted effort to inaugurate the sport into interscholastic and intercollegiate programs.

Biathlon

"As the rodeo developed from the daily work of the American cowboy, winter biathlon developed from the early experience of the Nordic hunter, traveling silently on skis to stalk wild game."



Winter biathlon, which combines a cross-country ski race of slightly over 12 miles with rifle marksmanship, requires the utmost in stamina. It is relatively new to Olympic competition and to the American winter sportsman. Few Americans have had the opportunity to develop these skills early in their lives. In the words of one of the U.S. Army's first biathlon competitors, it is "another man's game," and therefore requires extra effort and preparation by Americans. It grew, however, from a military competition which has been popular in Europe for many years.

The first time the winter biathlon was raced in the United States under what became Olympic rules and conditions was in the winter of 1956 at Camp Hale, Colorado. Both military and civilian competitors were entered. The winner was Jim Mahaffey, a student at Western State College, Gunnison, Colorado. He beat the top cross-country skier in the nation by virtue of superior marksmanship.

But while Mahaffey was scoring 13 hits out of 20 rounds in that first United States competition, the ski-firing race had been an international sport among European armies for nearly a half a century. Squads from the armies of Europe had met each other in military ski patrol races, the forerunner of biathlon, since 1908.

The military ski patrol races are still held, and the United States has been competing against the Europeans since 1957. For civilian winter sportsmen the race has been refined into the winter biathlon, which became an Olympic event for the Winter Games of 1960. The United States was represented in the 1960 Winter Games by an Army-civilian biathlon team.

Like many international sporting competitions, both biathlon and military ski firing races have taken on political overtones with the entry of Russian and other Communist bloc teams. American skiers have met superior Russian contestants in many races since 1957. The Russians as a team won the biathlon event in the 1960 and 1964 Winter Games.

Just as the rodeo as a sport developed from the daily work of the American cowboy, so has the winter biathlon developed from the early experience of the Nordic hunter who traveled silently on skis and was able to approach and make his kill of wild game with crossbow or later with rifle. It was also a part of the early training of the infantry soldier. The rifle is the basic tool of the hunter or infantryman and, in north European countries, the ski is the basic means of transportation during many months of the year.

Thus the military ski patrol race was born. Out of it grew biathlon. The winter biathlon is a 20 kilometer (about 12½ miie) cross country ski race, during which the racers fire at targets from four stands. The race course is carefully marked, prepared, and packed. There are no restrictions on the terrain over which the race trail is laid, but it normally is selected to offer about equal distances of uphill, downhill, and level skiing.

Four times along the trail the racers stop to fire five rounds at targets at a range of 150 meters. Contestants must alternate between the prone and standing firing position, with the prone position used on the first range. There are no restrictions as to where along the trail the targets are placed, except that they must be between the 5th and 18th kilometer of the ski run.

Biathlon is both an individual and a team event. Basic scoring is based on the time the racer takes to cover the course. However, he is penalized two minutes time for each target he misses, and one minute for each hit in the outer ring. Thus it is possible for a fast skier to lose 40 minutes time if all his shots miss the target. Total adjusted time of the three highest members makes up the team score.

The best race time in the 1960 Winter Games, for example, was one hour, 25 minutes, 58 and four-tenths seconds (1:25:58.4) run by Victor Arbez of France. But Arbez came in 25th in the race, because he was penalized 36 minutes for the 18 rifle shots he missed. The 1960 winner was Klas I. Lestrander of Sweden, who took nearly seven and a half minutes longer than Arbez to run the course, but who hit the target with every shot. His final adjusted time was his total running time: 1:33:21.6. In 1964 the winner was Vladimar Melanin of Russia with a time of 1:20:26.8, and in 1968 a Norwegian, Magnar Solberg won with a remarkable time of 1:13:45:9. The best United States individual entry for that Olympiad was Cpl. Ralph C. Wakeley, who finished in 27th place with a time of 1:27:32.9.

Targets for the biathlon course are round, printed on a rectangular backing providing a 5 cm margin. The targets for the prone are 25 cm in diameter, with a 12.5 cm inner ring. For the standing position, targets are 50 cm in diameter with a 35 cm inner ring.

Recently added to the world biathlon competition has been a four-man 7.5 kilometer relay event. In this race, each man runs the 7.5 kilometers, stopping twice to fire at five breakable targets. At the first firing station, 3.5 kilometers along the trail, he fires from the prone position at targets 12.5 cm in diameter. At a point five kilometers along the trail he fires off-hand at targets 30 cm in diameter. In each case the range is 150 meters. Each racer is allowed eight rounds at each station to break the five targets. For each target unbroken, he must ski a 200 meter penalty loop, thereby increasing his time around the course. Scoring is total time taken for the course.

This event was first introduced in World Championship Biathlon in 1965, was continued in 1966, and was a team event in the 1968 Winter Olympics when Russia won with a time of 2:13:02.4. The American team took 8th place with a time of 2:28:35.9.

Because biathlon is designed as a civilian sport, the equipment used is left to the contestant's discretion, except for certain restrictions on weapons. Most racers use light, narrow cross country racing skis, very lightweight ski boots, and bolt action rifles.

The United States Winter Biathlon Training Center at Fort Richardson, Alaska, was established to train all candidates for the United States biathlon team to compete in the Olympic Games, annual world championships, and other international competitions. The number of "biathletes" in training is usually small. Expert coaching is available, however, in both rifle marksmanship and cross country skiing. Excellent facilities are available for training. The Center has a biathlon race course and rifle range in the foothills of the Chugach Mountains; the fully equipped Buckner Field House at Fort Richardson, with its gymnasium, swimming pool, exercise rooms, steam rooms, and other facilities for intensive athletic training; and outdoor and indoor known-distance rifle ranges.

In order to be selected for training there, the man in military service must be chosen by his service. The Army, Navy, Air Force, and Marine Corps all have standing regulations for such selection. Although the training center is on an Army post and is operated by United States Army, Alaska, it is not restricted to Army men. Civilians who train at the Center must pay the normal charges for Army food and lodging,but are trained with the full facilities of the Center. Since the sport is under the jurisdiction of

the U.S. Modern Pentathlon and Biathlon Association, a civilian interested in training at Fort Richardson or having any other question on biathlon should write to the Secretary of the Association, George M. Wilson, 707 E. Broad Street, Falls Church, Virginia 22046.

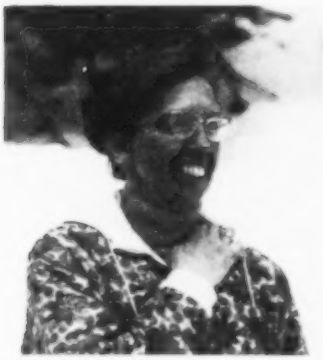
Physical conditioning is a vital part of biathlon competition. While the fastest skier can lose the race through poor marksmanship, the best marksman in the race is at a disadvantage if he is gasping for breath from the effort of the cross-country race. Therefore, training requirements are stringent, and the biathlete must undergo a rigorous training schedule both on and off skis.

Summer training is important. In addition to year-round shooting, the important background training in developing top physical stamina can be achieved through cross-country or marathon type running and interval training. When the snow comes, the biathlete is ready for strenuous training on skis. For example, in summer, when there is no snow in the Fort Richardson area, the athletes train on the rifle ranges, in the field house, on the playing fields, and on the cross-country course. Annually biathletes enter teams in the grueling Mount Marathon Fourth of July race at Seward, Alaska. This is a foot race from the center of Seward to the top of 3,022-foot Mount Marathon and back, a distance of more than six miles. Biathletes training at Fort Richardson have won top honors in both team and individual events each Fourth of July since 1963.

Biathlon is a hard, demanding sport. The U.S. competes not only in the Winter Olympics, but in international biathlon competition in Europe each year. Their opponents are the top ski-firing competitors from many nations, including Russia and the Communist countries. To meet these challenges, biathletes must not only be physically fit, but also have the hard-driving spirit of competition and the will to win which marks the successful international athlete.

The U.S. Modern Pentathlon and Biathlon Association (USMPBA), in coordination with the National Rifle Association, the U.S. Ski Association, and the U.S. Olympic Committee, is working hard to develop this winter sport in the United States. Since 1963 training clinics and national championships have been conducted each winter across the snow belt of the northern United States from Maine, New Hampshire, and Massachusetts through Michigan and Wisconsin to Colorado and Oregon. These have drawn many new enthusiastic winter athletes into the program. For the young winter sports enthusiast this type of program can be a rewarding experience and a real short cut to a possible place on a U.S. Olympic Team.

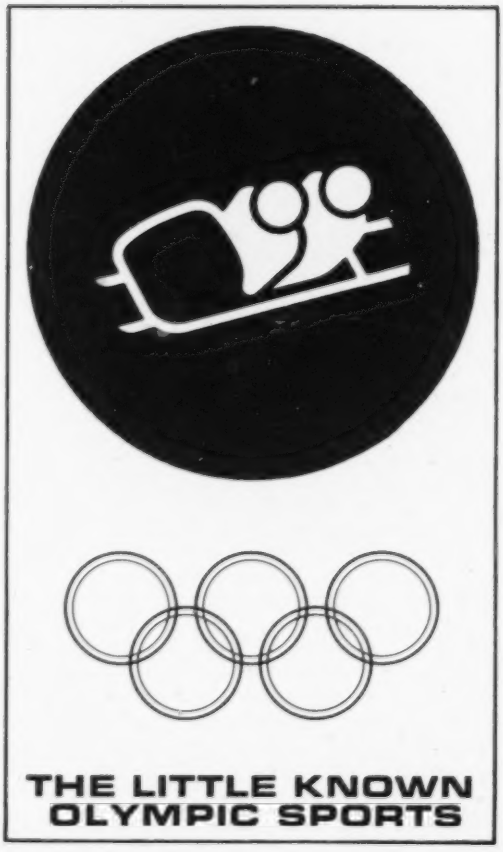
A long-range development program is also under way. In 1967 a pilot program was initiated in the New England area which consisted of demonstrations, exhibits, and conferences with school authorities and coaches to stimulate the inauguration of biathlon in the sports programs of secondary schools. The progress has been successful. School programs were initially started in Farmington and Auburn, Maine, and others followed. Individuals emerging from this start in Maine, New Hampshire, Vermont, and Massachusetts have been competing in a National Junior Championship each year since 1967. It is recognized that through school programs lies the real future for a broad biathlon program. This has proved possible since the sport has challenge for the young skier, combined with the ever-present enthusiasm of youth for competitive shooting, when they receive proper coaching with due concern for safety. Biathlon blends well into the sports programs of schools from junior high through college.



MARGARET LAMY spent twelve years covering Lake Placid's sports program, including six as editor of the weekly Lake Placid News. *She attended Winter Olympics held at Squaw Valley, California, and at Innsbruck, Austria, as a working reporter, as well as the 1968 Games at Grenoble, France. Now a free-lance writer, she handles public relations for Adirondack Museum at Blue Mountain Lake, New York, a regional history museum. Her husband Jim, twice a member of the U.S. Olympic bobsled team, holds a bronze medal in the four-man event from the 1956 Games at Cortina, Italy. He also competed three times on U.S. world teams. In 1967 he was coach of the world team and in 1968 of the Olympic team. He is now serving a four-year term as a vice-president of the International Bobsled Federation (FIBT).*

Bobsledding

"Men in combinations of two and four hop on a highly sophisticated sled and slide down an ice chute, propelled by gravity and defying centrifugal force, friction, and common sense."



Ever since man discovered that he could travel more easily over frozen surfaces by sliding he has tried to devise faster ways of doing it. And since his sporting instinct surely derives from his hunting instinct, he has been driven to chasing other men to prove his technique better than theirs. Bobsledding is all of these elements carried to an extreme. In it, men in combinations of two and four hop on a highly sophisticated sled with steel runners and slide down a specially prepared ice chute, propelled by gravity and defying centrifugal force, friction, and common sense. They travel about a mile in a little over a minute.

Bobsledding won international status when the Federation Internationale de Bobsleigh et de Tobogganing (FIBT), the governing body of the sport, was organized in 1923, and the sport was included in the first Winter Olympic Games held in 1924 at Chamonix, France. It had developed about forty years before as an offshoot of tobogganing, a popular activity among the growing numbers of well-to-do vacationers flocking to the Swiss Alps before the turn of the century. According to the Swiss, the first official toboggan race was held on February 12, 1883, when representatives of eight nations slid down the road from Davos to Klosters. St. Moritz claims to have built the first artificial toboggan run—the Cresta—in 1884. A great deal of experimentation with sleds followed, apparently because for a while both the steel skeleton sled (the forerunner of today's cresta sled) and the toboggan were raced on the Cresta Run.

An Englishman named Wilson Smith is credited with giving the sport its new name because of his idea of hooking two sleds together by means of a long plank, making a more maneuverable and hence faster mechanism. The early teams of four or five people all rode the sleds lying down. As the bobsleds became more highly developed, the racers changed to a sitting position.

The early teams included at least one woman. Actually, women competed during the early years after the sport was introduced to this country as an accompaniment to the Winter Olympic events of 1932. During the 1930s women competed in national races with men, but rules of the Amateur Athletic Union of the United States—which governs bobsledding in America—barred such competition. Eventually women were banned from the sport since there was not enough interest to warrant conducting separate events. One inside story says that women were dumped after Katharine Dewey, whose father Godfrey Dewey was largely responsible for bringing the Games here in 1932, won the national title in 1939 over a field of men.

The Mt. Van Hoevenberg Olympic Bobrun at Lake Placid, New York, opened for competition in 1931, but a special shorter course had been constructed nearby where races were held the year before to give the U.S. athletes a chance to learn the game. This effort to build sleds and develop racers paid off, because the U.S. teams, composed largely of men from the Adirondack region, swept both the two-man and the four-man Olympic events. Among the members of the team that year were a few of the wealthy sportsmen who had learned the sport while wintering in Europe and who had surprised everyone by capturing Olympic medals in the 1928 Games. These successes plus the obvious attraction of the speed and danger involved gave the sport a great impetus in this country. Bobsledding drew the largest crowds of all the Olympic events that year: 14,000 people in a single day.

Considering that all this occurred during the depths of the Depression, followed shortly by the Second World War, and considering that the only run in the western hemisphere is located in the northeastern corner of the United States, it seems a miracle that the sport should have endured at all. That it did is significant of its appeal.

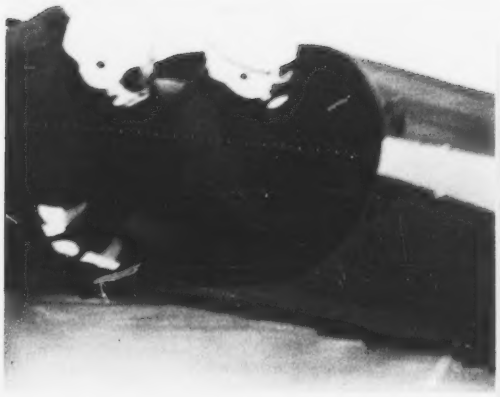
Although its challenges are major, bobsledding in America has remained a minor sport largely because of physical limitations—involving facilities, not people. Bobsled runs today cost millions of dollars to construct, far more than the financial benefits most U.S. mountain resorts could derive, in spite of the gain in popularity of winter sports. At least one more bobrun can be looked for soon in the United States as Denver prepares to stage the XII Olympic Winter Games in 1976. Other courses in Canada and the United States have been discussed.

Cost in all phases of the sport—not just involving construction of runs—has hampered its development. Two-man racing sleds sell for about $1800 and four-man sleds for about $2400 plus shipping. In this country teams have the added problem of expensive travel abroad for international competitions, most of the cost of which until recently was borne by the individuals, except for the Olympics. Since the sport is limited in scope in the U.S., much of the support has had to come from the Adirondacks or nearby in New York State.

There are no gate receipts to help provide equipment or training funds. The participation of military service teams and military personnel introduced to the sport while serving abroad has spurred competition within the U.S. during the last two decades. About a half-dozen bobsled clubs, also largely regional, help to raise money to support teams.

In Europe teams are usually supported by national sports federations or by the government. Since the runs are operated by individuals or local organizations, anyone

"Though its challenges are major, bobsledding remains a minor sport in America because of physical limitations—involving facilities, not people."



who can beg, borrow, or steal a bobsled can try the sport.

Bobsledding flourishes in Europe, where several new runs have been added in recent years to the half-dozen which existed there. Two were built in connection with the Olympic Winter Games of 1964 and 1968 at Innsbruck, Austria, and Alpe d'Huez, France. A full-length track has been operating for three years at Cervinia, Italy, site of the World Championships in January 1971. Another internationally approved run went into operation in 1970 at Sapporo, Japan, in preparation for the XI Olympic Winter Games in 1972.

Smaller tracks have also been constructed in Rumania and Sweden, as well as a Luge run at Konigsee, West Germany, none of which can be used for approved competition but all of which help foster the sport by providing training sites. The importance of such training could be seen during the 1970 World Championships at St. Moritz, Switzerland, when both the Italian and the German teams appeared to have an edge on their competitors as a result of their advance time on the Cervinia and Konigsee runs. Both countries have dominated the field in recent years, possibly because their teams train most intensively and because these training sites are available earlier in the season than other runs.

Why all this stress on the bobruns themselves? Recognized competition can be conducted only on tracks which meet the specifications of the FIBT. FIBT functions through a Congress which meets annually at the time of the World Championships with members from 19 participating nations. An executive committee, composed of the president—now Amilcare Rotta of Milan, Italy—four vice presidents, at least one of whom must come from North America, and a secretary, meets quarterly to handle interim affairs and to carry out the mandates of the international body.

Bobsledding can best be compared with formula auto racing. It involves the same combination of a finely adjusted machine, human skill, and luck, all subject to the added element of weather. Since it, like auto racing, also involves testing the limits of control for both machine and man, a high degree of courage is required.

Unlike auto racing, bobsled racing is done only on precisely engineered tracks. According to FIBT rules, a bobrun must be 1500 meters long with a minimum average grade of eight percent and the steepest parts not exceeding 15 percent. A series of curves or turns is designed to control as well as to increase speed by bringing centrifugal force into play. The radius of the curves is limited to a gravity force of 4Gs, however. The straightaway must be 1.4 meters wide, with sidewalls 50 centimeters high. Starting and finishing zones are provided, the former with a two percent downgrade and the latter usually built on a steep upgrade to help stop the sleds. The runs are sight-monitored from start to finish by means of checking stations connected by telephone. Electric timing devices, backed up by manual timing, are also used.

Racing sleds, now built almost entirely of steel, are carefully controlled by FIBT regulations, especially in regard to the length, width, contour, and spacing of runners, to eliminate special advantages in engineering modifications. Fiberglass and metal cowls are mounted on the front of each sled to cut down wind resistance. The rear runners are stable and move up and down independently, following the contour of the run. The front runners are suspended from the bob by a fifth wheel which in turn is controlled by means of a cable steered either with a wheel or ropes grasped by means of large rings.

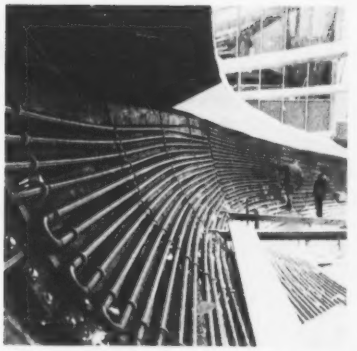
A total combined weight limit is set for both sled and teams: 375 kilograms (825 pounds) for the two-man "boblet" and 630 kilograms (1386 pounds) for the four-man teams. Since weights can be made up by adding metal to the sled, some competitors consider it an advantage to have lighter teams. Placing the weights at the front of the sled can add to the gravitational pull as well as increase stability by lowering the center of gravity. The disadvantage is that the teams have to be able to move that extra weight at the start.

There was a day, before weight limits were imposed, when bobsledders looked like top-weight wrestlers. Today's racing teams are all that the term "racing" implies: highly motivated, mostly young men who train year round to stay in the championship class. Many compete in other sports—bicycling, walking, sailing, water-skiing, auto racing—during what they call the off season. Running, weight-lifting, and general conditioning are pursued throughout the year. During the season teams practice together the all-important coordination required for the start. Some teams even practice on dry ground with sleds mounted on wheels.

The driver is the key member of the team, since he must find the fastest line down the intricate course. Time can be gained or lost in the slightest miscalculation. No driver will take a course exactly like another driver. Not only winning but the lives of each man depend upon the driver's judgment, control, and reflexes.

The brakeman is the second most important man on the team. He must be the strongest and best pusher because he is the last man to jump on the sled. He also has to stop the sled without putting it into a skid at the end of the run, using a lever attached to a tooth-edged steel brake bar which drops down at right angles to the track at the rear of the sled.

The other members of the team play their most vital role at the start, which can actually determine the outcome of



Left: Refrigeration pipes placed over curve planking. Right: laminated wood ribs, anchored and braced in concrete eight feet apart, which suport the curve planking and refrigeration pipes.

the race. Not only must the team push the sled harder and faster than other competitors, but the men must also judge carefully the right moment to get on the sled once it is moving. If they push too far or not far enough, they lose momentum. If they don't swing onto the sled with a smooth motion, they may force it out of the drive line.

The team's job is not finished then, even though many people think that they are there just for ballast. They can help to correct a driver error, perhaps by changing the balance to prevent a sled from tipping over if the driver comes off a curve too late or starts into one too early, or by shifting their weight to help bring a sled back into the drive line. They must learn to know their driver's thinking and the way he drives or takes a run.

Nerve is a necessary ingredient. A team pits its skill and strength against the human and mechanical obstructions surrounding certain physical laws. The driver leads the way, but he must have with him men who have confidence in his ability to handle the rapid decisions which must be made almost every foot of the way down the run.

A good team walks the run before each trip, studying the line of approach and descent in each curve, watching other sleds to see where they make or lose time, checking the cuts which develop in the curves as the sleds pound through, observing changes in the runner surface resulting from weather or repairs, and always memorizing.

They also work on their sleds constantly, including polishing the runners with emery paper and cloth to remove scratches and to keep them warm between heats. Mechanical adjustments can be made to adapt a sled to a particular run or conditions, since no course is built exactly like any other. For this reason, too, there are neither national or world records in bobsledding, only individual track records. Mt. Van Hoevenberg is the fastest run in the world, probably because it has a higher percentage of drop in the curves than the European runs.

To maneuver the course, a team stands 15 meters behind the starting gate, the driver usually at the left and the brakeman at the rear, or, for a four-man team, with two on each side. Each man grasps a push bar extending upward from the body of the sled; the driver's bar, however, comes out from the cowl and is pushed in after the sled is moving. A rhythmic rocking action is permitted, and at the driver's signal the sled is pushed with as much force as possible down the track. After the sled passes the starting gate, each man jumps on in order from the front. Only one sled is allowed on the track at one time.

In racing events the "drive line," or the best route on the straightaways, is opened up or cut by a series of practice runs. In national competition if the field is not too large, each racing sled may have a practice run. Otherwise the international rules are followed and the racing lineup is cut in half, with each half having the practice run on one of two successive days. If there is only one day of racing, then the last half of the list wins the extra practice run.

The fastest total time for four racing heats determines the winners. The draw for the starting lineup can be extremely important, not just because it determines who will receive a practice trip. The early racers travel what is called a "cold track." The continued friction heat created by the sled runners seems to make the track faster, apparently because a slight film of moisture remains on the ice. At Mt. Van Hoevenberg this is often accompanied by the warmer temperatures of midday, since races there are held beginning in the early morning hours. But the increased speeds are also noticeable on European tracks. The other factors which come into play are that the teams loosen up with the exertion and that the tension of competition has its inevitable effects. All this usually makes for constantly faster times as a race progresses.

Claims are made that bobsleds reach speeds of a hundred miles an hour. To travel a distance of a mile from a standing start in a minute and five, six, or seven seconds, they must come close to that at the fastest point of motion. Current modifications in sleds, now made almost entirely in shops in Cortina and Cervinia, Italy, have produced speeds once thought to be impossible.

The record at Mt. Van Hoevenberg for the four-man sleds, which naturally are faster than the two-man, is 1:04.62, set in the 1969 World Championships by the Italian team of Gianfranco Gaspari, driver; Sergio Pompanini; Roberto Zandonella; and Mario Arman, brakeman. The unofficial record of 1:04 flat was set by a U.S. sled piloted by Les Fenner of Elizabethtown, New York, during the practice runs for those championships.

A race is rarely won until the final heat, and it can be determined in hundredths of a second. A sled which records the fastest single heat for a day may not win the race. A sled with a poor starting position may come from behind to win. The lead may change from one heat to another, and even a team with a strong lead can run into trouble on the final trip.

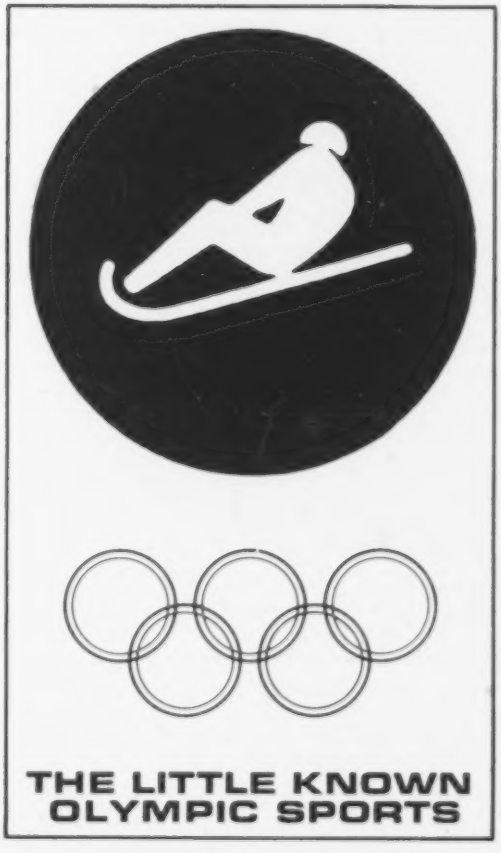
Any one of the elements involved—man, machine, weather, or indefinable fate—can alter the conditions at any moment. Falling snow, wind, or dropping temperatures can play havoc with the course. An accident can mean a long delay while repairs are made, repairs which mean at the least a variation in the course and at the worst a hazard such as a hole in the ice which must be avoided.

Specialized though it is, the sport has tremendous drawing power, which depends for fulfillment on that immeasurable urge of man to push himself beyond his known limits.

HARVEY M. JESSUP is chairman of the Department of Physical Education at Tulane University, where SARA D. DAVIS is completing work for her doctorate degree. Dr. Jessup and Ms. Davis wrote this article on luge, using as their source The Luge Primer, *by U.S. Olympic Luge Committee chairman Fred Hushla.*

Luge

"Lugeing requires more courage than any other Olympic sport; lugers fly down a steeply descending, curvy track, often at speeds of 60 mph or more."



Lugeing is small sled racing on sleds of wood or wood and iron with wide steel-faced runners. The rider assumes a feet-first position. Despite the fact that lugeing has been included in the Olympic Games since 1964 at Innsbruck, the sport remains a little known, little understood event. Tobogganing, from which lugeing is derived, probably originated as a sport in the early 1800s in Canada. Then it spread to the United States in the 1880s and was quite popular until the 1930s, when skiing became the fad.

Lugeing is a traditional winter sport in Austria, Germany, and Poland. The first European championships were held in 1914 at Reichenfeld, Austria, and the first world titles were challenged at Oslo, Norway, in 1955. Skeleton tobogganing, which is done on a light frame with steel runners, was included in the Olympics in 1928 and 1948 at St. Moritz, Switzerland. Skeleton tobogganing differs from lugeing in that the rider lies in a head-first, prone position. This sport is confined exclusively to St. Moritz, which has the Cresta run.

There are three different categories of luge competition: men's singles, women's singles, and men's doubles. The average track length is about 1000 meters. Men's singles competition begins at the highest point; women's singles and men's doubles start about 200 meters lower. Each luger makes four sledding runs which are individually timed. The low total of the times determines the winner and succeeding placers.

Each competition has a meet director, a starter, timers, three jury men, and track safety officials and recorders.

Every track or *bahn* has a natural trajectory or line for the most efficient entry into curves and exiting into the straightaways. The line is imaginary, of course, and the rider's ability depends on many variables based on his weight, experience, and ability to make use of this natural line.

All things being equal, a good luger performs well on all tracks. However, performances vary from track to track because long straightaways with looser curves tend to favor the heavy rider, whereas short straightaways with tight curves favor the lighter rider. Track conditions such as snow or night riding can also be important factors in the rider's performance.

One of the favorite tracks for lugeing is the refrigerated track at Konigssee, West Germany, because of its electronic facilities. Videotapes are made of the runs for review by the luger, and printed times are automatically made of each run, recording each segment. The statistics of this particular run give an idea of why it is said that lugeing takes the most courage of all Olympic sports, summer or winter. The men's singles start is at 1114 meters. The vertical descent is 117 meters, with an average drop of 11%. The track includes 16 curves. Women's singles and men's doubles teams start at 900 meters with a vertical descent of 90 meters, an average drop of 10%, and 12 curves.

Speeds up to 60 mph are frequently obtained by lugers, and on the Krynia run in Poland 80 mph has been recorded.

The track at Hammarstrand, Sweden, is an excellent one for training and practicing lugers. The U.S. Olympic luge team practiced there in December and January prior to leaving for Sapporo, Japan, and the 1972 winter games. The run at Hammarstrand is in operation when other tracks are closed because of weather. The total length of the bahn is 1500 meters; men's singles start at 1200 meters, women's and doubles at 1000 meters.

Other popular runs are at Oberhof, East Germany; Olang, Valdaora, Italy, site of the Federation of International Lugers world championships in 1971; Innsbruck, Austria, where in 1964 lugeing was first introduced as an Olympic event; and Grenoble, France.

There are no luge tracks available in the United States, but improvised tracks have been used to stimulate interest in the sport and encourage youngsters to pursue the interest in hope of raising future Olympic-bound lugers. A snow-covered or iced channel or ditch on any slope or hill—permanent or temporary—may be effectively used for beginning luge programs.

The racing sled most used for artificial courses weighs approximately 44 pounds and costs from $95 to $120. It has wedge-shaped rails, canvas seat, fiber glass reinforcement, metal clamps, and steel runners. A lighter sled weighing only 28 pounds is used for practice on artificial courses. It has all the same features as the standard sled but has lighter weight steel and costs from $50 to $80.

The *natur bahn* or natural track sled is similar to the artificial course sled, except that it is a few inches higher in order to clear obstacles. It is used to race on slopes and roads, over natural terrain. The cost ranges from $95 to $120.

Each sled should be tailored to the individual rider; body size and weight and riding position should be considered. The steel runners should be carefully adjusted for the conditions of the track and the type of riding to be done.

Some basic dimensions give an idea of the sled's proportions. It is 17½" wide at the back, tapering to 13" in

the front. Length is 51", of which the stabilizer bars make up 24". The stabilizer bars are ¾" round. The seat itself is 22" x 16" and is 6 inches from the ground. The doubles sled is slightly larger and has indented rails.

Personal equipment for the luger includes a lightweight helmet; goggles; warm, snug, insulated clothing; elbow guards; support belt; padded gloves; and light sneakers or shoes.

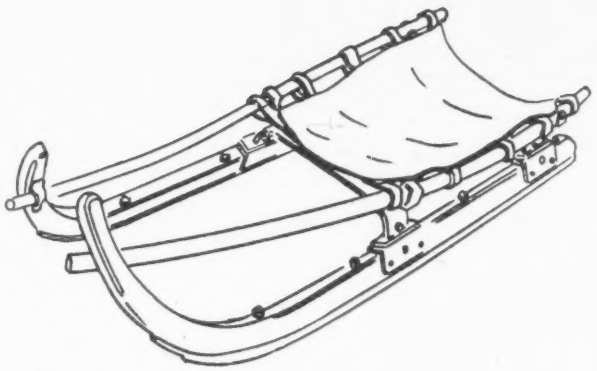
A good luger must be in good overall physical and mental condition; specifically, he should have especially strong neck, stomach, and leg muscles. In addition, he must have thorough knowledge of the basic principles of riding plus an inherent feel for the track, which comes only through constant practice and exercise.

The basic position on the sled calls for the rider to be as flat on his back as possible with his head up, his legs outside the runners, and his feet up. One hand maintains a firm grip on the rein, while the other holds onto the sled.

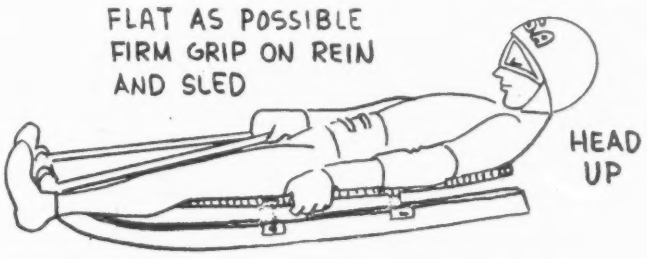
Basic control of the sled comes from four sources. With his legs and feet the rider presses on the runner with the ankle of one leg while lifting the runner with the other foot in order to execute a turn. He pulls with the rein to facilitate the lifting and uses the weight of his body at the back of the sled for friction or drag.

In doubles competition the rider on top is the driver while the lower rider assists with body positioning and acts as ballast.

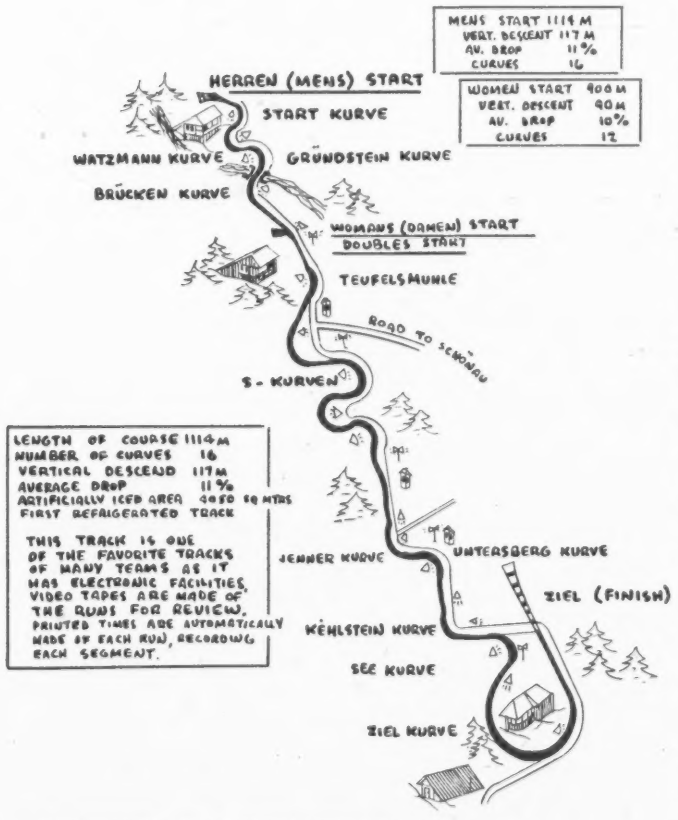
A simple, basic program for beginning luge uses any available hill or slope, any distance, and a race area marked by pennants or flags. A starter official and timers



Racing sled used on artificial courses.



Basic position on sled.



Refrigerated track at Königssee, West Germany.

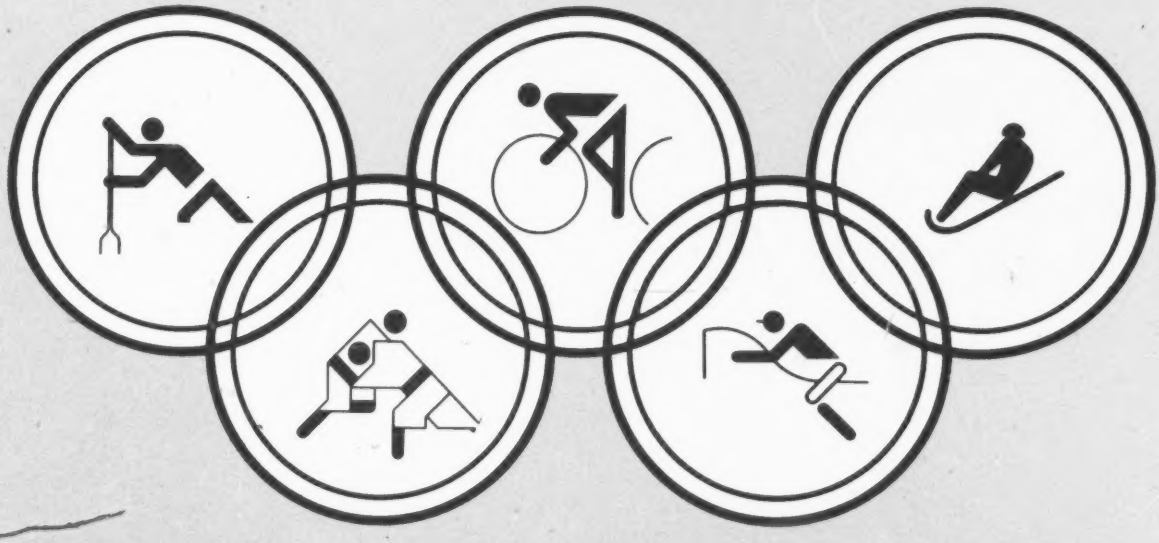
are necessary and safety precautions must be observed. Any type of sled may be used to learn the fundamentals.

A more progressive program calls for a specific type of sled, a starter platform, a ditch about three feet wide and one foot deep with no curves, an official starter, and timers. For the next step distances are increased and one or more curves are added. Regular luge sleds may be introduced. Depending on locale and slopes or hills available, sledding races can be held on abandoned roads or paths. In all cases, however, riders must make four runs. The low accumulative total determines first and subsequent places.

An example of a luge program is that conducted by Monroe County Parks in Rochester, New York, during the winter months of the past few years. The first year, approximately 135 youngsters participated in the one contest held at Powder Mill Park. Four runs were required. In 1970 five contests were held at Ellison Park on alternate Saturday mornings. Between 75 and 150 young athletes entered these contests. That year ended with a junior olympic competition with boys and girls winners in four age groups. In 1971 seven contests were held at Ellison Park on alternate Saturdays. A more complex slide was evolved by the contestants, who trampled down a ditch into the snow. After a few weeks a curve was added near the bottom of the track. With these features more skill was needed for the competitors. In 1972 a more complex slide was used by the young athletes who had competed in the previous contests, giving a more complicated program for the participants.

For those interested in starting luge programs, a manual describing the particulars of the sport has been prepared by Fred Hushla, AAU luge chairman. *The Luge Primer* is available from the AAU House, 3400 West 86th Street, Indianapolis, Indiana 46268, or from Fred Hushla, 1461 Ridge Road West, Williamson, New York 14589. □

THE LITTLE KNOWN OLYMPIC SPORTS



American Association for Health, Physical Education, and Recreation